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BEING A

Weekly Journal

OF

MEDICINE AND THE COLLATERAL SCIENCES.

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THE LONDON MEDICAL GAZETTE,

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SATURDAY, APRIL 1, 1837.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE IX.

On the use of emetics at the commencement of Fever—Not so well adapted to a later period — Domestic remedies for feverish colds: these colds prove to be fevers, and time is lost— Protest against the abuse of purgative medicine in fever—The idea of curing fever by purging is absurd — Treatment where the bowels have become almost paralysed from the cure of preceding diarrhœa—Venesection as a means of checking fever -- Beneficial even within the first twelve hours after seizure by typhus—Various cautions respecting leeching and cupping-glasses — Mode of applying leeches when pneumonia or hepatitis supervenes on fever.

I HAVE already observed, that it is not my intention to give a regular sketch of the practice to be adopted in the treatment of typhus. I have designedly passed over many important points, being unwilling to trouble you with any observations on practical matters in which my opinions coincide with the latest and best authorities. I shall therefore touch very briefly on the subject of emetics in fever, as the rules by which the administration of these remedies is regulated have been laid down with precision by many modern writers. I am not in the habit of using emetics in fever, except when called in at the very commencement of the disease. Here emetics are of great value, and will often succeed in stopping the fever. There is no way in which you will be more likely

to cut short an attack of fever than by the administration of an emetic, if you chance to see the patient when the fever is just beginning. I speak here without any subterfuge, and without grounding my opinions on the results of doubtful or merely suspicious cases. I speak not of cases of bad feverish cold, in which the symptoms at the commencement bear a very strong analogy to those which usher in typhus; —I speak of cases where the patient gets rigors, followed by the usual symptoms of feverish excitement, after exposure to contagion, and is seen on the evening of seizure. If I were called to visit a patient who had been attacked with shivering, headache, quickness of pulse, increased temperature of skin, and lassitude, during the prevalence of an epidemic or after exposure to contagion, and happened to see him a few hours after the attack, I should certainly bleed him and administer an emetic; and I think he would have a very good chance of escaping the disease. I think the exhibition of emetics an excellent practice in the commencement of fever, but I must observe, that the period of their exhibition is very brief. After the lapse of twenty-four or thirty-six hours from the occurrence of the rigor, they will not succeed in cutting short the fever. A few hours make a vast difference in the chances, and after the lapse of twenty-four hours there is, generally speaking, very little hope of extinguishing the disease. At the termination of this period, it has in most cases seized hold of the constitution too firmly to be shaken off by an emetic, even though aided by bleeding. But for the first few hours after seizure, the plan I have mentioned affords you a reasonable hope of being able to put a stop to the mischief at once. Army surgeons, and practitioners who have opportunities of treating incipient disease, are well aware of the truth of these observations. I have myself witnessed many cases in private practice of medical men

and students, who had been attacked with symptoms of fever after exposure to contagion, and who escaped by taking an emetic and being bled in proper time.

Except at the commencement, I am not an advocate for the use of emetics in fever. They fail in checking the disease, and they are apt to be followed by considerable debility of the stomach and general system,—states which it would be better to avoid where the patient has to run through the course of a long and exhausting disease. If called to a case of fever in which you cannot give an emetic, there are two or three other remedial agents you may employ to moderate the feverish excitement, and render the disease milder and more manageable during its progress. One of these is James's powder, with which you may combine blue pill or hydrargyrum cum cretâ, if necessary, giving two or three grains of each every third or fourth hour, according to circumstances. Another remedy, which many are in the habit of using, particularly where the fever is accompanied with symptoms of inflammatory excitement, is a weak solution of tartar emetic. Two grains of tartar emetic may be dissolved in a pint of barley-water; and of this mixture a table-spoonful may be taken every second hour. These are good and useful remedies in the first stage of fever; they moderate the feverish excitement, act gently on the bowels, and produce more or less diaphoresis.

It most commonly happens that the physician is not called to see a case of fever until forty-eight hours, or perhaps three or four days have elapsed, from the period of seizure. In this climate, feverish colds are extremely frequent; and as their symptoms bear considerable resemblance to those of incipient fever, and very few are capable of making a distinction between them for some time, a person attacked with fever usually regards it, at the first onset, as the result of cold, and expects to be able to alleviate or remove it in a few days by bathing his feet and taking a warm drink at night, with, perhaps, some opening medicine on the following morning. The usual period, however, at which the feverish cold had been accustomed to decline, passes over without the expected amendment, the patient feels himself weaker and worse, the conviction is brought home to him that his disease is something more than an ordinary cold, and he sends for a physician about the third or fourth day. Now at this period, I believe, you must be content to let the fever run its course; for it has taken root too deep to be expelled by a *coup de main*, and yet many persons seem to think they can still succeed by what they term bold and decided treatment. The mode which

they generally adopt is, first, to administer an emetic, and then to have recourse to copious and continued purgation. This leads me to say a few words on the use of purgatives in fever.

The abuse of purgatives, particularly in the first stage of fever, continues, I am sorry to state, even to the present day, a blot on the character of practical medicine. Large doses of calomel and vegetable purgatives, in the form of pill or bolus, and followed up by draughts composed of infusion of senna, Epsom salt, and electuary of scammony, form the chief part of the treatment in fever with too many practitioners. I know well that this is a mode of proceeding too commonly employed, and I have frequently heard those who adopt it, when questioned as to the remedies they have used, declare with much self-satisfaction, that the patient's bowels have been well cleared out. This, I believe, is a very common mode of treating fever in the incipient stage; and though there can be no objection to the administration of a purgative, as a cautionary measure, particularly where an accumulation of fecal matter in the bowels is suspected, I must confess that my experience does not authorize me to say, that fever can be either checked or mitigated by continued purgation. If active purgation does not check fever in the commencement, what benefit, then, can be expected from it? People will tell you that full purging must act beneficially in two ways; by unloading the bowels, and by evacuating the general system. With regard to evacuating the bowels, I think it can be done well and sufficiently by the use of mild aperients. It is seldom necessary to give active purgatives, and we never have occasion to continue their employment from day to day. The bowels, I repeat, can be sufficiently unloaded by the exhibition of mild aperients and enemata, and even these will seldom be required more than once or twice in the commencement, and occasionally during the course of the disease. The second question (in reference to the use of purgatives as general evacuants) is, whether is it prudent or safe to act antiphlogistically on the system through the medium of the intestinal canal during the first stage of fever? My opinion is, that it is not. I grant that the administration of active purgatives is followed by a copious evacuation of the fluid secretions of the intestinal canal, and that in this way you deplete the system to a very considerable extent. Admitting all this, and moreover that depletion is required, still I am of opinion that this is not the best way of effecting it, and shall always give a preference to the action of other remedies. I prefer the action of James's powder, or tartar emetic, or nitrate of potash, or

leeches, or, in fact, any remedy which will act with less risk of subsequent mischief. I have observed that the abuse of active purgatives in the commencement of fever, —nay, even the exhibition of cathartics two or three times, in the beginning of fever, in persons with irritable bowels, is very apt to induce excitement of the gastro-intestinal mucous surface, giving rise to early and profuse diarrhoea, tympanites of a bad and unmanageable character, and not unfrequently to disease of the mucous coat of the digestive canal. Great tenderness of the belly, meteorism, and exhausting diarrhoea, are the general consequences of early and continued purgation. In private practice I can generally tell, by examining the patient's belly, whether he has been actively purged in the commencement of the disease or not. I invite you to study the cases that come before you in hospital, with reference to this point; I think you will find, in most instances, that the patients who have escaped active purgation before admission, will get through the disease with little or no tympanites. The physician who merely employs mild aperients and enemata—who does not use active purgatives from day to day, as is too often done—will not have his plans of treatment embarrassed by the occurrence of dangerous tympanites, or obstinate and debilitating diarrhoea; nor will he have the melancholy prospect before him of having an inflammatory affection of the gastro-intestinal mucous membrane to treat, at a period when neither the condition nor the constitution of the patient will bear any thing like antiphlogistic measures. As to purging in general, the idea of curing fever by it is quite absurd. In fever, all the secretions are affected, and it would be idle to think of altering and improving all by acting on the bowels. Take the skin, for example. Consider what a departure there is from the normal state; observe the quantities of moisture which exude from it without any apparent cause, or its equally inexplicable dryness. Its odour, its feel, its nervous and vascular conditions, are all more or less altered. Take the lungs in the next place. There is generally some change in the smell of the patient's breath; there is some change also in the quantity of the pulmonary exhalation; there is an alteration in the rate and mode of respiration; and I have ascertained, by experiment, that a person in fever does not consume as much oxygen, or give out as much carbon, as he would in a state of health. Observe the functions of the brain, or those of the liver or kidneys, and see how much they have departed from the normal state. Every secretion, every function, is more or less

deranged, and will remain so as long as the fever lasts. You have no right to think that you will be able to restore the healthy state of the stomach and bowels any more than that of any other organ. The secretions of the lungs, liver, pancreas, kidneys, stomach, and skin, are all deranged, or more or less suppressed, and will not be restored to a healthy state until a crisis comes on, or the disease begins to decline. As long as the belly is soft and fallen, and where the bowels have been sufficiently opened in the commencement of the disease, I do not feel the least anxiety if the patient remains without having a stool for two or three days. I have, on some occasions in private practice, been induced to consent to the exhibition of a purgative where I did not think it required; and have seldom done so without regretting it afterwards. The patient has been going on well, the belly soft and fallen, no tenderness present, and no distinct evidence of faecal accumulation. All this I have pointed out to the practitioners in attendance with me, but to no purpose. They would generally observe, in reply, "Oh! this may be all true; but you see the patient has had no stool for the last thirty-six hours, and it would be quite wrong to let him go on in this way any longer." Indeed, you will frequently meet with cases in which you should exercise much caution in the administration even of enemata. An illustration of this remark occurred to surgeon Ferrall and me lately in practice. In a case of fever in which the patient's friends were importunate as to the necessity of opening the bowels, the ordinary purgative injection was prescribed. It proved too active, and produced much irritation of the bowels, giving rise to an increased secretion of gas into the intestines, and a considerable degree of temporary tympanites.

You will be guided, therefore, in the administration of purgatives, not by the rule of those who are not satisfied with less than two or three motions in the day, but by the circumstances and exigencies of the case; and you will be cautious in giving purgatives, except where you have good reasons to conclude that there is an accumulation of faeces. In this way you will avoid tympanites, diarrhoea, and inflammatory affections of the bowels; symptoms which always give great annoyance to a practitioner, and tend greatly to embarrass his practice in the treatment of all fevers of a typhoid character.

So far concerning the administration of purgatives as a cure for fever, or as a means of diminishing its violence. You perceive that I think their employment more than questionable, and in this particular am consequently at issue with Hamilton, and

a great number of writers. There are, however, circumstances which may arise during the course of typhus, and may require a free use of purgative medicines: we are then forced to have recourse to purgatives, not in the hope of curing the fever itself, but for the purpose of removing or alleviating certain superadded symptoms. It may be well to mention some of the chief of these symptoms. One of the most common is determination of blood to the head, producing delirium, headache, &c. &c. In many examples of this nature, occurring at an early period of typhus, purgatives of a very active nature are amongst our most efficacious remedies. Nay, even in the advanced stages of fever, delirium and determination to the head are seldom relieved by tartar emetic, unless it produces very copious, yellow, watery stools. Many patients become uneasy and restless at night, in the latter periods of fever, in consequence of insufficient evacuations from the bowels: whenever, therefore, restlessness or sleeplessness supervene unexpectedly, and that the bowels are confined, the occurrence of these symptoms call for aperients, even though the belly be not very full and tumid. Preternatural fulness of the belly and tympanites often demand purgatives at every period of the disease. In some cases, when a troublesome diarrhoea has yielded to astringents, a very obstinate and long-continued state of constipation comes on, apparently connected with impaired muscular power of the intestinal tube. At first, this confinement of the bowels produces no uneasiness on the part of the medical attendant, inasmuch as it is unattended by any fulness or tension of the abdomen, and the patient may, in other respects, appear to be doing well. After some days, however, it is judged prudent to excite alvine evacuations, which is attempted cautiously, for the practitioner bears in mind the violence of the previous diarrhoea. He, therefore, chooses mild purgatives at first, and next day, finding them ineffectual, he ventures on the exhibition of more active medicines, and orders a frequent repetition of injections. Even these steps fail, and constipation continues for several days after the efforts to remove it have been commenced. This is a juncture full of difficulty. In such cases much caution must be used in employing active cathartics, and great care should be taken to remove any accumulation of hardened faeces which may have accumulated in the rectum or sigmoid flexure of the colon. This must be done partly by the finger, or by means of an appropriate scoop, as for instance a marrow-spoon, and by injections of soap and water. When no such mechanical obstructions exist to account

for the failure of the cathartics, we must proceed cautiously, and not rashly accumulate medicines of this description in the stomach and bowels of the patient. Very active purgatives, though they fail to stimulate the paralyzed bowels so as to evacuate their contents, may yet irritate the intestinal mucous membrane, and cause destructive inflammation. For this reason, where moderate doses of colocynth, gamboge, jalap, scammony, rhubarb, &c. have failed, they must not be repeated; neither, except in desperate cases, ought we to administer croton oil internally. The neutral salts, senna, magnesia, and above all castor oil, given combined with spirits of turpentine, or uncombined and very frequently repeated, must be our chief internal medicines. In some cases the compound decoction of aloes, with small doses of sulphate of magnesia, will succeed in exciting the paralyzed bowels to action, where other and more powerful purgatives have failed. Injections should be perseveringly repeated, and varied both in quality and quantity; and they should be always thrown as far as possible into the bowel, by means of a flexible tube and Read's syringe. When they are retained, and excite swelling of the belly, as too frequently happens in these cases, we must desist from their use.

This obstinate state of constipation may be supposed to depend on a degree of paralysis of the bowels; for usually in such cases an evident paralysis affects the bladder, causing retention; or its sphincters, giving rise to an involuntary dribbling of urine.

On the subject of bleeding in fever, I have but very few remarks to offer. In the first place, with respect to the power which venesection possesses of checking fever, it may be observed, that there can be no doubt that it has frequently been found capable of effecting this purpose, particularly where it has been properly employed, and in conjunction with other means. I speak here with reference to cases in which bleeding has been used under favourable circumstances, and very soon after seizure, as in students, medical practitioners, hospital attendants, soldiers, and seamen. In such persons, and others whose circumstances have been equally favourable, there is no doubt that venesection has frequently succeeded in cutting short fever; and if called to a case of typhus within the first ten or twelve hours after seizure, I should have no hesitation in having recourse at once to venesection, followed by an emetic; and my own experience convinces me that I should afford my patient a very good chance of escaping the disease. I have on several occasions succeeded in arresting the progress of fever

by these means; and the records of naval and military practice furnish many proofs in corroboration of my statements. I have also the authority of Dr. Cheyne (whose experience on every point connected with fever was immense), in favour of the efficacy of bleeding in commencing fever, as a mode of treatment which has frequently proved successful in his hands. But it is only in the very commencement, and almost only during the stages of rigor, that you can hope to derive any advantage from venesection in cutting short an attack of fever. I do not mean to say that you will have in typhus, as intermittent, distinct rigors, lasting each for half an hour, or even longer; by the stage of rigor in typhus I mean to designate the period of formation, during which the patient complains of recurrent chills, although his skin feels hot to the touch when examined by another person. This stage lasts generally from twelve to twenty-four, and in a few cases to thirty-six hours; and it is only during this stage that you have a chance of extinguishing the fever at once, by the abstraction of blood from the system.

You may also have recourse to venesection within the first day or two, for the purpose, not of arresting fever at once, but of lowering inordinate vascular action, in persons of a robust habit, and where the fever sets in with violent headache, great heat of skin, and a firm bounding pulse. We do not, however, at present meet with many such cases, nor are we often called in at a period when venesection might be advantageously practised. The physician seldom sees a case of fever until the third or fourth day, and then it is too late to think of general depletion by the lancet. This explains why venesection is so seldom employed in typhus in our hospitals. Moreover, in entering on the treatment of any case of fever at present, you should bear in mind the nature of the prevailing epidemic, and be careful how you proceed with respect to bleeding; and if you take away blood, do not go so far as you would if treating a case of fever under different circumstances, and of a genuine inflammatory character. I know that many persons have asserted that you can bleed in all cases of fever, no matter what the state of debility may be; because this, they say, is only apparent, and depends upon congestion and oppression of vascular action. I do not know how far this doctrine may be applicable to other epidemics, but in the present fever it certainly does not hold good; and no man in his senses would think of adopting it as a guide for his practice. I have seen some of the most intense, dangerous, and protracted cases of fever, commence without any appreciable

increase of vascular action, with a soft slow pulse, a cool skin, no symptoms of congestion of any internal organ; in fact, without any thing which would, even in the youngest and most robust habits, call for the use of the lancet. Increased vascular action, and this you should always bear in mind, is not in itself a proof of an inflammatory diathesis in fever, but rather one of a set of symptoms produced by the same morbid cause. The heat of skin and rapidity of pulse are, just like the debility, products of the same morbid cause, and not the results of inflammation, or increased action of the heart, depending on a general inflammatory condition of the whole mass of the blood. You should also recollect that in fever, as well as in other diseases in which the nervous system is greatly deranged, the pulse is not unfrequently a very deceptive guide. In many cases of fever, where the patient happens to be of an irritable habit, the pulse exhibits a degree of thrill and apparent hardness, which might lead an inexperienced or inobservant practitioner into serious errors. I do not mean to say that an experienced finger will not be able to distinguish a pulse of this kind from one of genuine hardness, but I know that many persons have been misled by it, and I warn you against the danger.

Again, never use the lancet where there is any, even the slightest, appearance of maculæ, no matter how intense the headache, heat of skin, or signs of general vascular action may be. I have seen some cases in which the lancet was used during the presence of maculæ, and I have seen its employment followed by the most lamentable consequences. You should therefore never omit to examine the skin, for circumstances might occur which would authorize a moderate use of the lancet, provided there was no sign of maculæ present. Formerly persons were very much in the habit of employing arteriotomy when the headache and delirium were violent, regardless of the period or stage of fever; and nothing was more common than to see a physician ordering the temporal artery to be opened on the eighth, ninth, or even tenth day. This was very much the practice during the time when the doctrine of typhus being the result of inflammation of the brain, prevailed in this country and England, and a very unsuccessful practice it was. You perceive we seldom have recourse to arteriotomy here: it may be occasionally necessary, and when it is we employ it; but as a general practice it does not appear entitled to any merit, nor can we give it our recommendation.

The examples which you have seen in

hospital shew you that local inflammation arises, generally speaking, at a period when general bleeding is no longer admissible. Here you must have recourse to cupping and leeching; and this leads me to say a few words on this part of the subject. I have observed that local inflammations in typhus are most usually seen after the stage of excitement has arrived at its acmé, and that it is generally about the middle of fever that they begin to fix themselves in various internal organs. We have, it is true, very severe affections of the internal organs, particularly of the brain and digestive system, in the commencement of fever, but these are most frequently the results of mere irritation or excitement, and not of true inflammatory action. They are, however, of considerable importance, and frequently require the application of leeches. I have spoken already of the mode in which leeches are to be applied to the head, with the view of relieving headache and cerebral congestion; it is not necessary that I should say any thing respecting their application to the epigastrium or abdomen for the relief of gastro-intestinal symptoms in the beginning of fever, as there is very little chance of your doing any mischief even by the free use of leeches at this period; it only remains for me to make a few remarks on the use of leeches and cupping-glasses, in the more advanced stages of the disease. Well; your patient, suppose about the 9th or 10th day, gets pain in his side, cough, and increased frequency of respiration, and on examination you find sufficient evidence of the existence of pneumonia. Or he complains of abdominal symptoms, and you have strong reasons to think that hepatitis or enteritis is present. Here you will have recourse to leeches or cupping, according to the circumstances of the case. An attack of pneumonia, coming on in fever, frequently acts as a stimulus to the economy; the collapse of fever disappears more or less, and the pulse becomes more firm and resisting. This is a fortunate occurrence, for under such circumstances the patient is better able to bear depletion, and you may proceed at once to apply cupping-glasses or leeches to his chest, regulating the quantity of blood you abstract, not only with reference to his present symptoms, but also to his future condition. But it sometimes happens that pneumonia occurs at a later period of the disease, and when you cannot use cupping-glasses, or even leeches, to any great extent. In such cases (and the same remark will apply to enteritis, or any other inflammation occurring in the advanced stage of fever) you should leech with great caution; begin with four or six at a time, and when they

drop off, cover the leech-bites with a cupping-glass. In this way you will know pretty nearly the exact quantity of blood which the patient has lost, and you can arrest it with less difficulty afterwards. You can then have recourse to calomel and opium, or tartar emetic, according to circumstances. Leech, as far as you can, and then have recourse to immediate blistering, and such other means as the exigencies of the case may demand.

You may leech, then, freely, and without any particular caution, in the commencement of fever, whether it be for cerebral, or for thoracic, or abdominal symptoms; but as the fever advances, you must exercise more discrimination and care, both as to the number of leeches you apply, and the time you allow them to bleed. In applying leeches to the head, I would advise you not to put them on both temples, or behind both ears, at once, as this is awkward, and prevents the patient from lying on either side. You may also, in cases of cerebral irritation, apply them to the nostrils or septum narium; in this way you will be able to get away a large quantity of blood by means of very few leeches, for one or two at a time will be sufficient. The application of leeches to the abdomen or thorax, so far as the place for their application is concerned, does not require any observations. You will frequently have to employ them in the treatment of gastro-intestinal inflammation, and you will find them most valuable agents in many cases, when scarcely any other mode of depletion is admissible. In leeching the chest and abdomen in particular, I would advise you never to have recourse to fomentations with the view of getting more blood from the leech bites. Fomentations are too often a source of fresh mischief in cases of this kind, leading to exposure of the patient to cold, and to the annoyance of having his linen and bedding kept wet for hours together. Always give directions to have cupping-glasses, or hot dry flannel cloths, applied as soon as the leeches drop off, and you will avoid the inconveniences attendant on fomentations, at the same time that you will be able to procure quite as much or even more blood, within the same space of time, and you will have less difficulty in arresting its flow afterwards, a point of some importance in cases where the loss of even a trifling quantity of blood is often of great moment, and likely to have a very powerful effect on the state of the patient.

I had purposed concluding to-day my observations on the principal remedial agents used in the treatment of fever, but find that time will not permit me to go further. At our next meeting I shall

say a few words on the employment of mercury and some other remedies, and will then proceed to the consideration of some cases of importance which are now under treatment in our wards.

PHLEGMASIA DOLENS OF THE EYE.

To the Editor of the Medical Gazette.

SIR,

I TRUST you will furnish me with an opportunity of correcting an erroneous statement which appears in your report of Professor Graves' clinical lecture on Glanders, &c*. (See MEDICAL GAZETTE for March 18.) It is there stated that "Mr. Middlemore has failed to notice phlegmasia dolens of the eye, in his late work on the diseases of that organ." If the learned Professor will refer to that section of my work which treats of suppuration of the eye-ball (vol. ii., p. 486), he will find that I have *not* overlooked the affection alluded to in his lecture. The subject is also more or less fully discussed in three subsequent sections—namely, "inflammation of the eye occurring after fever;" "inflammation of the eye connected with, or consequent on, cholera;" "inflammation of the eye consequent on parturition." However, as the following brief quotation from the second volume of my work will constitute my best defence against the charge of negligence or ignorance, which it may be considered that Professor Graves has brought against me, I trust you will permit its insertion. "Inflammation of the veins is sometimes succeeded by suppuration of the eye-ball, in whatever part of the body the phlebitis may occur; but as the uterine, the femoral, and the iliac veins, are more generally the seat of inflammation in connexion with parturition, suppuration of the globe is consequently more fre-

quently referable to their inflammation than to that of the veins in other situations. Suppuration of the eye-ball consequent on any great impairment of the qualities of the blood, appears to differ from the same condition of the disease arising from diminished nutrition of the globe, in as far as the latter stage of the affection is preceded by a greater degree of chemosis, and by a more complete series of manifest morbid changes in the cornea. Division or disease of the fifth pair of nerves, the ligature of the carotid artery, &c., would appear to cause suppuration of the eye-ball, by impairing its nutrition; phlebitis, certain fevers, cholera, &c., would seem to cause the suppuration of the globe, by inducing particular morbid changes in the blood, or by causing the vital fluid to be mixed with various diseased secretions." (Page 490).—I am, sir,

Your obedient servant,

R. MIDDLEMORE,

Surgeon to the Birmingham Eye Infirmary.

ON THE BRUIT DU DIABLE.

To the Editor of the Medical Gazette.

SIR,

ABOUT a year ago, while examining with the stethoscope a female who presented some symptoms of diseased heart, I remarked in the jugular veins a noise exactly similar to that of a spinning mill, which might be varied in intensity and tone, and even be altogether arrested, by pressure above, or further from the heart than the stethoscope, or by merely pressing with the edge of the instrument rather firmly against the neck. The patient was a young woman who was brought to me to decide whether the suppression of the menses with which she was affected arose from pregnancy or disease. She had palpitations, but no chlorosis, nor œdema; but as the person who came with her was only a neighbour of the woman with whom she lived as servant, I did not choose to gratify her curiosity at the risk of the girl's reputation, and therefore I endeavoured to ascertain whether the symptoms might not have a pathological rather than a physiological cause. This consideration induced me to examine

* I beg it to be understood that I do not write to complain, but to explain; for, in respect to the general merits of Professor Graves's lectures, I can have no wish to deny that they constitute by far the most practical and useful series of clinical discourses on medicine with which I am acquainted—embodying, as it appears to me, the matured experience of a man, the untiring energies of whose comprehensive mind has been devoted with distinguished success to the acquisition and diffusion of professional knowledge.

her chest, and led to the discovery of this curious noise. Since that time I have not seen the patient, who left the town soon afterwards; nor did I meet with another instance, till having read in M. Bouillaud's recent work on the Heart, that the "*ronflement du diable*" was a common symptom in anemic, and chlorotic, and nervous subjects, I began to examine such patients that came under my notice, and I have now collected five cases of this affection.

Though I differ from M. Bouillaud in regard to the nature of this sound, yet his description of it is so clear and accurate, that I cannot do better than transcribe it in a condensed form. In the three years that his attention has been directed to it, he has observed above a hundred cases of its occurrence. He compares it to the sound of a humming-top, or some such toy, called a "*diable*" in French, and says that it rises and falls according to the pressure on the vessel, and the activity of the pulse; as the tone of the instrument varies with the strokes of the whip which urges it. It is chiefly heard over the course of the left carotid and subclavian, above the inner end of the clavicle. It is subject to sudden intermissions, for which M. B. is unable to account; and it is weakened or stopped entirely by a pressure on the arteries not sufficient to arrest the pulse. It ceases also if the artery be compressed above the place where the stethoscope is fixed, or if the larynx be pushed aside from that part, and also during a violent effort; but it is much augmented in intensity if the head be turned away, and the chin be raised. M. B. considers the *ronflement du diable* to be a sound intermediate between the bellows murmur and the musical sound of the arteries described by Laennec, and says that it is attended with a purring tremor of the parietes of the chest, of a slighter character than that which indicates contraction of the cardiac orifices. The same class of persons—viz. the nervous and the chlorotic, were the subjects of one or other of these sounds; and so constantly does the "*bruit du diable*" attend chlorosis, that he terms it the "*bruit chlorotique*." He has also observed it in pale nervous men, but he does not state decidedly whether it was this sound or the others that he heard. He attributes it partly to a watery state of the blood, as it ceases to be audible

with the return of health, and the restoration of that fluid to its normal condition; partly to the rapid circulation so near the heart; and in part to the vicinity of the larynx, which acts as a kind of sounding-board.

Such is M. Bouillaud's description and opinion of this phenomena. The former is exact as far as it goes, but it is my object in this paper to endeavour to shew wherein the latter is incorrect, and to prove that the sound in question is produced solely by the veins. M. B. confesses that his own theory is insufficient to account for all the circumstances; but I flatter myself that that which I have to offer is quite adequate to the purpose, and therefore, (according to the rule "that the true cause of any thing is that which is consistent with, and will explain, all the phenomena,") will be received as the real explanation of this curious sound, for the following reasons:—First, the sound has been heard over the course of the external jugular vein as well as over the carotid arteries. Secondly, it is solely in this latter situation, and not always there, that the sound is so modified by the proximity of the carotid as to appear to be augmented by the ventricular systole. Thirdly, it is arrested by pressure on the external jugular when heard along the course of that vessel, and, as is asserted by M. B., by a pressure over the carotid quite insufficient to stop the pulsation of the artery, but which would certainly obstruct the flow of blood through the internal jugular. Fourthly, it is increased by pressure, and by everting the head with the chin raised; because, under these circumstances, the calibre of the vein is diminished, and consequently the velocity of the current is increased. Sixthly, for the contrary reason the sound is stopped by turning the head so as to shorten the vein, and retard the course of its contents towards the heart. The greater distance the blood has to traverse in passing from the left side of the neck into the vena cava, will also explain the greater frequency of the sound on that side. Seventhly, the sound is arrested by pushing aside the larynx, because this can be accomplished only while the muscles of the fore parts of the neck are relaxed, at which time the jugular vein is relaxed also; besides that, the larynx and trachea sometimes prolong, by their

resonance, the pulsations of the carotid and the respiratory murmur, so as to simulate the bruit-du-diable when none exists. Eighthly, a violent or a prolonged effort produces regurgitation in the veins, and thus puts a stop to the flow and sound of their contents. When the sound intermits, I have been able to account for it by the pressure of the stethoscope, or by the position of the patient's head. Tenthly, the reason that the purring tremor, when felt, is slighter in these cases than when a contraction of the cardiac orifices exists, arises from the difference in the strength and tension of the vessels, by whose vibrations the phenomenon is produced.

Although I do not concur in opinion with M. Bouillaud, as to the set of vessels in which the bruit-du-diable occurs, yet I fully agree with him in referring it to a too fluid state of the blood, with increased rapidity of the circulation; as I have hitherto detected it only in cases in which such a state of the system was evident—four of my five patients being affected with palpitations, and two being chlorotic. In one case there was a general bellows-sound in the heart and all the larger arteries; in another at the heart only. If the sound be really audible in the axilla and extremities (of which I have great doubts), I should still attribute it to the venæ comitantes, and not to the arteries. I have not yet had an opportunity of examining a patient who has suffered from loss of blood, but, judging from the accelerated state of the circulation in such cases, and from having witnessed a remarkable instance of venous pulsation from that cause (see *MEDICAL GAZETTE*, vol. x. p. 376), I think it highly probable that the sound would be detectable in such a condition.

Whichever hypothesis the cause of the bruit-du-diable be the true one, both are equally opposed to that of Dr. Corrigan—that the bellows-sound, and others like it, arise from relaxation of the vessels; for, whether the sounds are produced by veins or arteries, they are in both augmented by pressure and tension.

Since my attention has been directed to these anomalous sounds, I have been able to explain, satisfactorily to myself, a peculiar murmur heard in certain parts of the chests of persons presenting symptoms of phthisis. This murmur closely resembles the respiratory mur-

mur when weak, or the distant roar of the wind on the sea on a calm night; but it is continued even while the patient holds his breath, and occurs in such parts of the chest as percussion or auscultation, by the dulness and absence of vesicular respiration, would indicate as the seat of crude tubercles. I now attribute this sound to the passage of the blood through the pulmonary vessels; and I consider that it is rendered more audible than usual by the tubercular infiltration and consequent solidification of the pulmonary tissue increasing the conducting power of the lung for sound.—I am, sir,

Your obedient servant,

T. OGIER WARD, M.D. Oxon.

Physician to the Birmingham
Dispensary.

Birmingham, March, 21, 1837.

THE LATE INFLUENZA.

To the Editor of the Medical Gazette.

SIR,

HAVING taken some pains to collect statistical facts relating to the late epidemic influenza, I now send you the result of my inquiries, if you think it of sufficient interest to merit a place in the *GAZETTE*.

In my last communication I stated that the epidemic appeared here immediately upon the breaking up of the frost; and I must own that I commenced my inquiries in the full expectation that they would lead to a proof of the sudden change of weather having given rise to, or at least having favoured, the development of the disease. Investigation, however, has shewn that in this instance its origin was in no way connected with the change of weather or of temperature, but apparently to some morbid matter of a specific nature existing in the atmosphere. This opinion is supported by the fact of the universality of the disease, pervading alike all classes of society, clearly demonstrating that good food, warm clothing, and comfortable lodging, afforded no protection against its attack; whereas, had change of temperature been the exciting cause, those who were worst provided against the vicissitudes of the weather would have been the greatest sufferers.

Locality appears to have exercised no influence either in mitigating or in aggravating its attack. In low situations near the river side, amongst narrow lanes and close alleys, the complaint was neither more frequent in its occurrence (in proportion to the population), nor more violent in its form, than it was in the upper town, or in the adjacent country, amongst the villages and farm-houses.

Those people whose occupations were carried on in high temperatures, as the pitmen, glass-blowers, forgers, and founders, were amongst the first who suffered from the epidemic; and great numbers of them were attacked while at work, and consequently when the skin was in a state of great activity; from which we may fairly infer that the morbid impression is not made upon the system through the medium of the skin.

The people employed in the various soda manufactories, who work and live in an atmosphere impregnated with muriatic acid gas, of such strength as to destroy vegetation in the immediate vicinity, enjoyed no exemption, but suffered in an equal proportion to the rest of the community; a circumstance calculated to make us a little sceptical as to the disinfecting powers of any gaseous fluid.

Of sailors, many were attacked at sea, but, as far as I can ascertain, not in the same proportion as those in the harbour, who, along with keelmen, watermen, and others employed upon the river, suffered in a similar proportion to the rest of the inhabitants. The only class of people who enjoyed immunity from its attack, were the dredgers, consisting entirely of females, amounting to about 200 in number: their occupation consists in wading up to the arm-pits in salt-water for three or four hours, at each ebb-tide, to collect, with wooden rakes, the coals which fall into the river in loading the ships. These women enjoy a remarkable exemption from sickness, and generally attain to a very advanced age: on the late occasion they escaped the epidemic entirely.

In further evidence of its origin being independent of the change of weather, I may here mention having a patient, a gentleman who had been confined to his chamber for some months, the temperature of which probably never varied so much as one degree, and yet he took

the epidemic, and, singular enough, he was the only individual of the family who took the disease. But what, perhaps, will be deemed most conclusive, Dr. Brown, of Sunderland, informs me that, between Christmas-day and New-year's-day, he saw several cases of influenza; amongst which, some of them occurred in members of his own family. Now this was during the continuance of the frost, and at least ten days before its appearance here.—I remain, sir,

Your obedient servant,

EDWARD GREENHOW, M.D.

North Shields, March 17, 1837.

HYDATID TUMORS:

THEIR FORMATION AND PATHOLOGY.

To the Editor of the Medical Gazette.

SIR,

IN your number of the 4th ult., Dr. T. O. Ward, of Birmingham, in a talented article upon Hydatids, &c., has referred to a parallel case published by me about fourteen years ago, tending to confirm his views as to the formation of hydatids. Leaving that question in his very able hands, I would now wish to invite the attention of professional men towards forming such a correct diagnosis of these particular cases as might enable us to intercept them in their fatal career. It appears to me probable that not only Dr. Ward's, but the case so fully lectured upon by Dr. Elliotson three or four years ago, might have been rescued by an *early operation*; and here I would take the liberty of referring the latter to the 19th volume of the Edinburgh Medical and Surgical Journal, because I think he will observe with interest the close resemblance that case bears to his own.

Christopher Burnett, the man upon whom I operated, though having a bad complexion, and, if hurried, soon out of breath, is still alive and healthy, having ever since supported a large family by his manual exertions. His children are strumous.

While I admit the risk of confounding these tumors of the abdomen with medullary sarcoma, and other malignant growths (for I have twice seen the trochar pushed at random into medullary tumors of the belly, which had been

mistaken for cysts), yet, by careful dissection, and with the aid of the exploration needle, as adopted by me in the instance referred to, a satisfactory result might be obtained; for post-mortem examinations have generally proved, that, to a considerable extent, no viscus has interposed between the cyst and the posterior portion of the parietes of the chest and abdomen: here, then, is the favourable point for surgical interference.

Without detailing the steps necessary to be pursued, I would merely refer to those so successfully adopted, and published by me in the nineteenth volume of the *Edinburgh Medical and Surgical Journal*; and remain, sir,

Your obedient servant,

H. C. SHERWIN,
Surgeon.

Hull, March 15, 1837.

P.S.—*Taste of Quina.*—It may not be generally known that a bit of apple, chewed for a moment, will in an instant efface the bitter taste of quinine. To many patients this fact is worth knowing.

H. C. S.

COLD SPONGING IN "FITS."

To the Editor of the Medical Gazette.

SIR,

THERE are no cases which require more careful attention on the part of the medical practitioner than the treatment of various kinds of fits. The following observations apply more particularly to those of an epileptic character, and to the condition of the patient immediately following the convulsive paroxysm, and previous to the usual somnolence succeeding epilepsy.

The diagnosis of epilepsy is very easy; but symptoms often occur subsequent to the convulsive action, which are liable to confuse the practitioner. The pulse is an uncertain sign, for I have found it beating sometimes slowly and strongly, at other times so rapidly, that it was impossible to count it. If a person is seized with a fit, a medical man is sent for; and if he finds the patient comatose, with a full pulse, bleeding is very commonly performed, and it

appears to me much oftener than is necessary, or conducive to the general health of the patient.

I was sent for to see a gentleman at Limmer's Hotel, in August last, who suffered from the symptoms above described. I could not rouse him, and he had bleeding at the nose, which I attributed to his having fallen, as he had also a contusion on the face. His servant told me that he found his master lying on the floor, and that he had been subject to epileptic fits for some years. Some of his friends also told me the same thing. Trusting to this statement, and the case being chronic epilepsy, I merely sponged the temples freely with cold water, took care that there was nothing tight about him, and he was placed in the horizontal posture. Although I could not rouse him by common means, the application of cold water to the head was effectual, for he almost immediately got up and dressed himself.

Having known patients bled in the same state, where there was evidence of its following epilepsy, I was determined to try how far the free application of cold water to the head might be useful in rendering persons sensible under similar circumstances, as I expected to have frequent opportunities for the practical employment of this simple remedy; and I was happy to find cases, after repeated application, in one of which there was violent stertorous breathing, how quickly the sensibility of the patient returned. I was unable to rouse my patients by other means immediately after the paroxysm; of course, in a short time they fell asleep.

I therefore conclude, that freely sponging the head with cold water may sometimes be found useful, when we are sent for to patients labouring under the effects of fits (there being no history of the case), in guiding us when to employ, or when to neglect, the lancet, the improper employment of which may decide the fate of the patient.

I remain, sir,

Your obedient servant,

C. J. B. ALDIS, M.A., M.B.

13, Old Burlington-street,
March 15, 1837.

ON THE
ORGANIC FILAMENT AND ITS
TISSUES.

BY THOS. GORDON HAKE, M.D.

Physician to the Brighton Dispensary.

IN contemplating the endless varieties which a few elementary bodies form, and tracing the illustrations, however limited in number, which organic and inorganic analysis affords, the effect is no less striking than precious as a scientific result to the mind. For although the earliest grade of organic formation is the simple globule—a particle not possessing the capability of function—an invisible, an almost mathematical, point of matter, more inert as a whole than its united elementary parts, as much so as an atom of carbon or azote, — what numberless combinations of laws are quiescently centred within it, and adapted to manifest their powers by new organic associations, as their components have already done by inorganic, ascending as promptly in the scale of creation as their new unions receive additional responsibility of higher cause and effect.

Again, how different to inorganic substance is the contexture of the globule, and in this had been seen its separation from every inferior form of matter. The cause of this peculiarity in structure, which so forcibly interests the mind, is not simple, but, as far as can be ascertained by direct intelligence and its many aids, is made of minor causes, each of an order too high to be analysed in this early stage of the study. This, however, is no allusion to first causes, but rather to those organic actions which conduct matter through various changes, until, amalgamated with the organs in action, it participates in the causation of the functions themselves, which are the formative powers.

The globular figure so uniformly observed among the elementary states of organization, is accounted for by the share of influence which the laws of matter exercise with undeviating force during the changeful stages of its formation. There exist superior forces to determine the intimate texture of the globule; but these vital agencies, deciding the position rather than the dis-

tance from each other of the unformed atoms, interfere but little with that equal gravitation of the parts towards each other which terminate in a sphere. Nor does a figure exactly spherical imply an equal density of all the parts, provided the equality be observed throughout each concentric layer which may compose it; nor is it essential to its subsistence that the decrease of density should be in the direction of the surface, provided that each column from the centre to the circumference be alike.

In the organic globule, then, the last visible manifestation of the laws of matter is the spherical figure.

The most attentive measurements which have been effected during microscopic researches, are in reality, perhaps, only equivalent to an hypothesis of the truth. But accuracy of this kind does not materially affect principles so general as those which are the fruits of human labour. In expressing size by decimal numbers, and composition by fixed proportions, there is yielded no idea, and the figurative definition is not defined in thought. The only advantage gained by these means is an ideal point of relation between bodies, which serves as a reference, and is fixed during the changes and revolutions which they undergo. This should be borne in mind in the description of all invisible magnitudes.

Rows of cellular-tissue globules form the filament or fibre. A single row of Edwards's globules forms a line which is the seventy-five-hundredth part of an inch in thickness; whereas the primitive cylinders or fibres of Fontana, which must consist of globules, approach to only half that size. But what renders the disproportion greater is, that the cylindrical filament of Edwards was resolved into rows of these globules.

The cellular tissue fibre is of a cylindrical figure, and of the same magnitude in every part of the body. No visible medium unites the corpuscles which form it.

The muscular-tissue fibre or filament is also composed of a series of globules of the same name, which manifests no uniting medium, and is of the same thickness as the globule itself.

The nervous-tissue filament consists of globules of the same name, arranged in a linear direction, and united by means of a fatty or gelatinous matter.

This filament is said by Fontana to be twelve times greater than the preceding; so that whether Edwards be credited or Bauer, in the description of the globule, it must follow that the filament is formed of several rows, or, as remarked by Dutrochet, of globules irregularly scattered over a cylinder, which is perhaps itself composed of globules, although the latter fact has never been determined. This filament is of a brownish colour, pulpy, and of a tortuous form.

These three filaments, whose composition and structure is thus alluded to, by means of the few aids afforded by science, constitute the most prominent of those known, each being the most perfect of its kind; and although an indefinite number of deviations from these types may exist for particular uses, they may be classed as only varieties. In entering hereafter on the complications of structure which the three filaments give existence to, each variety of filamentous structure and the cause of deviation will receive allusion, and be referred to the parent type.

To the solitary filament no discoverable function is attached any more than to its constituent corpuscles, although it possesses higher capacities than, and is in advance of, the globule towards the development of power. In the ascending links of the organic chain, the forces belonging to each increase in a compound ratio, although still reserved, that is, uncalled into action. The forces of the filament, for instance, are not the added, but the multiplied powers of the globule, which again, being the multiplied powers of organic elements, founded in their turn on the same of the inorganic and more simple, and all these running through a series of hundreds of combinations; the functional manifestations, when called into play, is of a nature most surprising: and there are few minds which can trace the complications of matter through so vast a chain, in order to reconcile them to the grand effects which they cause in their most perfect adaptations.

But a far more composite body than the filament or its unions, is demanded of matter, for the manifestation of function, even of the meanest order. It is a task for language to describe the extensive co-operation of substances in various forms which leads to the existence of a filament; but the process must be men-

tally repeated over each variety of filament; and in the further intermixture of fibre with fibre must be borne in mind the still increasing ratio of powers which merge into new unities, to be multiplied and merge again at every grade of the compounding process; and although reason may leave the faculty of conception behind, it must not pause, but, assured of its solitary strength, pursue the infallible argument as long the complications of structure give it support.

In this stage of the inquiry the science rises from the invisible to the visible. What has been ascertained heretofore is derived from experiments hard to be accomplished, observations difficult to be made, so that deductions flowing from these are more general than would be at first supposed by minds unused to the investigation.

It is now time to consider the manifold interlacings of cellular-tissue filaments which give extent and form to cellular membrane, the basis of the living body. They cross each other in many ways, not, however, pursuing a fortuitous course, but constructing their web in a manner which never varies, and therefore conducts always to a like result. This regular interlacement of fine translucent fibres forms plates in the more complicated work, but at the surfaces, the fibres, still traceable, form a network similar to, but less dense, than that which realizes the central tissue. This intersection of filamentous lines at unequal angles, and the existence of numerous centres of intersection, give rise to cells of communication, the denser plates forming the walls and the net-work establishing spaces by which the cellular tissue, continuous throughout the body, has each of its cells open to the rest.

Cellular tissue, although the least important, is one of the three great constituents of organism. The muscular and nervous tissues (the other two) are indebted to this as a medium of their development. Without it, neither the one nor the other could attain to its active form that state of superposition which the parts of complete tissues arrive at, and which is co-existent with function. Indeed, a reciprocity of support will be found among the three, and it gives to each so great a dependence on the rest, that all are important, although their relative consequence may be ranked in

the order wherein they are described; the last, when in action, having functions which are greatest and based only on the others, while its grandest action consists of an effort almost entirely centred in itself.

Therefore the forces urged on matter, whatever they may be, during organic formation, are so harmonized in purpose among themselves, as to impress their equivalent value on it (the material itself being duly prepared), as the structure is produced: and the structure various in itself, but dependent one part upon another, is a representative of the forces which produced it, and permanently bounded in its offices by the influence which pervaded its creation.

The muscular filament, composed of rows of globules without any visible medium of union, is probably secured by the attenuated web of cellular tissue, which encircles and binds it to others, in the formation of larger fibres. These are like the filaments of a flattened polyhedral figure; but the last only having a uniform size. The fibre consists of hundreds of filaments; and, invested in cellular tissue, gives rise in turn to lacerti, or bundles, of which the membranous envelope is denser than that of the preceding: the investment, in fact, increases in density with the complications of muscular tissue; and, combining the parts which it incloses into a perfect whole, is itself a continuous body perforated longitudinally, and holding muscular filaments within its tubes.

Nervous filaments also have their cylinders connected by means of cellular tissue; the union, however, is but partial, for they are not always parallel, but sometimes twisted and irregularly disposed. A delicate sheath of cellular membrane is their investment, and many of these sheaths, united by continuity of substance, form nervous fasciculi, or bundles. But these, from the original disposition of the filaments, have the appearance of dividing, subdividing, and then uniting again. The fasciculi are enveloped in sheaths, or neurilemata, which, like those of the filaments, and by similar continuity of their denser substance, form nerves, though not without the same subdivisions and reunions; and, finally, the nerves are inclosed in sheaths resembling, but still more dense than, those of the fasciculi and filament.

In other instances the nervous globules are arranged in lines, which, aggregated, form a flocculent pulp. This without the intervention of a grosser tissue, constitutes large masses of medullary and cineritious matter.

Thus the three principal tissues of the living body are made, and thus they are associated together; but more numerous complications, accompanied by higher responsibilities, must be traced, before that state can be rendered intelligible which is equal within its own causes to the manifestation of function, when prompted by appropriate stimuli to action.

PRACTICAL OBSERVATIONS ON HERNIA.

To the Editor of the Medical Gazette.

SIR,

THE endless variety of forms under which the operation for hernia exhibits the structures entering into its formation, has obtained for that popular department of surgery an interest almost peculiar to itself. This variety is universally acknowledged; for almost every additional case furnishes to the catalogue of the past some new and interesting feature, rendering it dissimilar to those which have preceded it. It might, indeed, become a question of almost arithmetical difficulty, to estimate the complicated varieties involved in, 1st, the ordinary regions of its occurrence; 2dly, the nature of its contents; 3dly, the character of the abdominal parietes, as regards the development of the various structures engaged; 4thly, the changes referable to duration; 5thly, those due to the varying degrees of constriction; and 6thly, those resulting from treatment before, during, and after the operation for its relief.

It is, perhaps, to be regretted that we possess no general summary of these varieties—that they remain recorded only in the private note-books of their respective observers.

If this observation be correct, as regards a disease of daily observation, it is still more applicable to some forms of rarer occurrence, of the nature and treatment of which, nothing approach-

ing to individual experience can be acquired. Take, as an example, hydrophobia; of which many practitioners pass through life without witnessing a single case, and of which few members of our profession possess the advantages of controlling the treatment of more than two or three cases at the utmost: here, surely, the results of the past ought to be concentrated, were it only to the end of exposing, and finally of exploding, the useless routine of remedies to which those practitioners resort whose attention is first directed to the subject.

I have more than one witnessed examples of this evil, in which medical men of great intelligence were zealously engaged in discussing the efficacy of remedies previously tested and discarded, instead of coming prepared for the adoption of some new and rational treatment, the product of previous reflection and inquiry.

I have unintentionally wandered from the subject with which I commenced these observations, and to this I now return.

The medical periodicals of the last two or three months have teemed with cases of strangulated hernia, for which the operation has been performed without opening the sac, and, as in virtue of its supposed novelty, this mode of treatment has advanced far in the confidence of a portion of the medical public, I hope I may not be suspected of maintaining a bigotted adherence to established rules of practice, or of a disinclination to adopt and acknowledge the improvements of others, if I state why I consider the operation for the most part an objectionable one, and rarely applicable to the circumstances which these cases present.

The advantages contemplated, are, I presume, those of simplifying the operation, and of diminishing the probability of peritonitis.

In the first place it may be worth while to inquire into the causes of inflammation of the peritoneum consequent on the operation for strangulated hernia. Can it be justly attributed to injury done to the sac by the knife? This is a very general opinion, and should be treated with respect, but I confess that I have always entertained considerable doubt on the subject. That a structure so simple in composition, and performing so subordinate a part in the economy, should take umbrage, as

it were, at a clean and limited division by the knife, to the end of producing an extensive and frequent fatal inflammation, seems, to say the least, unreasonable, and is not, as far as I know, borne out by the analogy of serous membranes in general.

Pleurisy is certainly not a general, nor even a frequent, attendant on injury from fractured rib; and if it were, it would afford no argument in favour of this view, because the one is a clean division, the other the effect of laceration. Nor is inflammation of the tunica vaginalis consequent on the puncture of that membrane, in hydrocele; and it will scarcely be asserted that the occasional inflammation of veins from violence, or the more frequent disorganization of joints from puncture, can be deemed examples, or cited as arguments favourable to the doctrine.

But supposing the sac of a hernia to be the seat of inflammation, what is the probability of its extending to the general membrane lining the cavity of the abdomen? I conceive very little. When any part of a serous membrane lining a cavity becomes inflamed, it is notorious that the inflammation extends more or less over the surface which is uninterruptedly continuous with or contiguous to it. But this will scarcely apply to the connexion subsisting between the sac of the hernial tumor, especially if of long existence, and the peritoneum itself. When the sac is protruded from its original cavity, it forms a new connexion, receives a new supply of vessels, and almost assumes a new structure. It is very improbable that it would participate in any attack of inflammation of the original membrane; and it is, I imagine, not less so, that inflammation commencing in the sac should extend from it to the membrane within the abdomen. The connexions which the sac forms with surrounding parts may vary, though they are generally too confirmed to permit its return into the abdominal cavity; but as regards its neck, the connexion is there uniformly complete; and in an old hernia, it is difficult to imagine a serious effort made by a surgeon during an operation to remove it. Its connexion to the ring, or most contracted part of the tube, will almost bear comparison with that between the dura mater and arachnoid, or the two laminæ of the pericardium.

In more recent cases, doubtless, this

will not hold: there the union is less confirmed, and may be dissolved, at least on the dead subject, without much difficulty.

I cannot say that I have ever known a case in which either inflammation of the sac extended to the abdominal cavity, or that of the general peritoneum affected the sac. The sac once insulated, loses all sympathy with the general membrane, as the latter is entirely independent of it. We constantly see the sac the seat of abscess and of gangrene, in common with the integuments covering it, without the slightest concomitant abdominal symptom; and I have little doubt that the same observations will apply to that portion of the omentum which, having been long protruded from the abdomen, has acquired extensive adhesions to the surrounding sac.

I performed, some two months since, an operation for femoral hernia, with Mr. Davies, of Finsbury-Square, on a lady in that neighbourhood. The omentum, which was protruded in a considerable mass, was adherent to the lower part of the sac: of this I returned about half, and left the remainder in the sac. The action of the bowels was restored in the course of a few hours, but after a period of three days, the sac and omentum contained within it became inflamed; the inflammation extended to the integuments, and the case once more assumed a formidable aspect. She expressed not the slightest pain on pressing the abdomen to within two inches of the femoral ring. The pain was entirely confined to the region of the sac. On the eighth day I laid open the sac, from which about an ounce of pus escaped, secreted apparently both from sac and omentum. I then removed nearly the whole of the latter, and she recovered without any other drawback but what arose from the sloughy state of the integuments.

I operated for inguinal hernia on a man. The sac contained both intestine and omentum, both of which I returned through a moderately close stricture into the abdomen. After the operation every objectionable symptom disappeared. The case progressed most satisfactorily. On the fourth day, however, the sac became swollen, and the skin inflamed. He had no abdominal tenderness nor constipation, nor indeed any symptom referrible to the abdominal

cavity. The tumor became so large as to lead me to believe that the intestine had again descended into the canal. But I was mistaken. It proved to be a large abscess in the sac, which I punctured, and the man recovered.

In a volume of the Medico-Chirurgical Transactions, in his paper on Phlebitis, Mr. Arnott has described and depicted the sudden termination of the inflamed state of the veins at their junction with a large branch. This, I believe, I recollect him to state as a general or at least a frequent occurrence; and daily experience teaches us that a form of inflammation perhaps the most nearly allied to the erratic inflammation of serous membranes, viz. erysipelas, may be arrested in its progress by a single sweep of caustic on the skin.

Is it unreasonable, then, to conclude that the intimate union of the neck of the sac with the contracted structure around it, may so completely insulate the protruded sac as to exclude the peritoneum from all participation with its diseases? As regards the fear of evil resulting from the division of the sac, I confess I do not know on what it is founded, for I have never seen any serious consequences resulting from it.

But what, then, is the cause of inflammation consequent on the operation in question? Probably the violence done to the protruded parts in the indiscreet attempts at reduction by the hand long and forcibly applied, and as regards the patient, *usque ad nauseam*.

It is recommended by those, more especially of the old school of surgery, who are anxious to abridge the evil and curtail the sufferings of the patient, that the attempt to return the hernia by the *taxis* should not be persisted in beyond a quarter of an hour. Why, a hard-fisted surgeon might knead an intestine to a jelly in half the time. Besides, we must observe, as regards this rule, that operations for hernia generally require consultations, which may consist of two or more surgeons, and it is not quite fair to expect that a referee will consent to sanction an operation until he has convinced himself by manual inquiry that the tumor is irreducible. The patient is therefore subjected to another examination, that every advantage to be derived from the *tactus eruditus* may be liberally afforded him.

While these gentlemen are holding consultation in secret conclave in an ad-

joining apartment, their pupil or pupils being in charge, justly conceive it due to the patient to afford him *one more chance*, and not being fully agreed in which of two directions the force should be applied, wisely determine to try both. By these means, if the tumor be not reduced, it is some advantage to know that the patient is, and sufficiently so for the operation. The division of the sac discloses a highly inflamed intestine, in which state it is returned into the abdomen; the wound is united by suture, and the patient is carried to bed. *Perhaps this may be one cause of peritonitis.*

May I ask in what direction is inflammation of the peritoneum propagated within the abdomen, when following the operation for hernia? Is Mr. Hunter's "sympathy" "continuous," "contiguous," or both? If a portion of the intestine of a dog, or other brute, were exposed and strangulated for some hours, kneaded by the taxis, and returned in an inflamed state into the abdomen, in what direction would the inflammation travel? Might it be traced from the external wound, or would not the inflamed intestine become a centre of irritation, extending its influence, like a fire-brand, in all directions, and propagating a general inflammation throughout the whole peritoneum?

I now come to the question, is the operation for strangulated hernia simplified by abstaining from division of the sac? In considering this question, the nature of the connexions between the neck of the sac and the stricture must be recollected. They are for the most part all but identified; it cannot be otherwise.

In order to accomplish this operation, a complicated dissection must be made from the skin downwards to the stricture, the precise position of which it is impossible to know by an external view. The incision, particularly in a large subject, must be long; not longer perhaps than in the operation generally practised, but very objectionable as regards its position. In the latter (the general operation), three-quarters of the incision is made on the hernial tumor, which does not enter into the construction of the abdominal parietes, and of course no injury is sustained as regards the liability of recurrence. In the for-

mer, a considerable portion of the incision is made *on* the abdominal parietes for the purpose of reaching the stricture, the position of which is very uncertain, and this incision, in many cases, must be very large. Again, it is extremely difficult to cut down upon the stricture without endangering the contents of the sac. The sac itself can afford no protection to the intestine, and the division of the parts which strangulate it must necessarily be made in a straight direction from the surface downwards; involving, therefore, parts which might reasonably escape division by that operation, which experience has adopted as the best hitherto devised.

It appears to me that the highest merits of the operation for strangulated hernia are lost sight of in that which is proposed as its substitute, viz.—1st, the division of parts which *do not* give support to the abdominal viscera at as great a distance as possible from the cavity containing them; and 2dly, the smallest possible division of the parts that *do* enter into the structure of the walls.

The operation may be reported easy of execution, but the term is but a comparative one. I have seen it twice attempted within the last month by able and practised operators, and in both it signally failed. In both examples the attempt was relinquished, and the sac opened.

Let me not, however, misstate the difficulties of the undertaking. The objection to cutting towards a stricture when we have the power to leave undivided every part of the structure around the ring but the stricture itself, must be obvious, but I imagine the effort must be occasionally made to divide it by passing a director through the stricture without a previous division of the surrounding parts. This attempt I have repeatedly made without success.

It was my good or ill fortune to become conversant with the difficulties of hernia with the subject on the table; and of all the obstacles with which I had to contend, no one was so great as that arising from the difficulty of interposing a director, or a probe, between the stricture and the sac. This was attempted in uncertainty as to the state of the sac. The moment the sac was divided, all difficulty vanished.

But supposing the advantages of the newly-revived operation to be substantially great, is there no counterbalancing good resulting from opening the sac? It appears to me that there is no advantage equal to that of knowing the condition of the contents of the sac. The intestine may be adherent to the sac, and the sac to the surrounding parts. How is the intestine thus connected to be returned into the abdomen?

The omentum, though generally in front of the bowel, is not necessarily so; and, in the attempt to replace them, the two may be twisted within the abdomen. Of this examples have been known even when the sac was opened; it may obviously occur more frequently where it is not.

The intestine may be enveloped in omentum. It is not very impossible that the two, being united, may retain their connexions although returned.

Supposing the intestine to be gangrenous, how is it to be determined if it be not exposed to view?

As regards the radical cure, surely there can be no comparison between the two operations. The return of the sac into the abdomen is so rare, as scarcely to form an element in the calculation. If the sac be left untouched, its tube remains patent for the return of intestine; for it is hardly to be expected that the stricture can be diminished by pressure, or that its tendency to close will not necessarily be frustrated, so long as the neck of the sac remains intact, while its division at least improves the chance of obliteration. It has been proposed to scarify the neck of the sac, for the purpose of promoting its obliteration. This advantage, if it be one, is surely lost; for if it be difficult to make one division on the exterior without wounding the sac, *à fortiori* it is difficult to make many.

We often hear of cases in which the stricture is caused by the sac. Such a case occurred to me last week in St. Bartholomew's Hospital.

A man, aged 22, had been for several years the subject of inguinal hernia. I was called to see him after nine days' constipation of his bowels, during which time he had suffered no pain, and but little inconvenience of any kind. He bore pressure on every part of his abdo-

men without complaint. His right inguinal canal exhibited an unnatural fulness. He was quite clear on the subject of the former hernia; and his own statement relative to the long-continued state of constipation was corroborated by a note from the medical man who had previously attended him.

Under these pressing circumstances I determined to explore the swelling in the groin, which certainly had as little the appearance of hernia as any case of the kind I ever witnessed. The operation proved one of unusual interest. I divided over the canal, including the external ring. The cremaster was large and distinct. At the lower part of the canal a small and round sac, distended with fluid, became prominent. It contained a round knuckle-like portion of intestine, of about the size of the yolk of a hen's egg. It was highly injected, but not otherwise diseased.

On endeavouring to pass the director upon the intestine towards the internal ring, I found its progress obstructed by a band that was apparently adherent to the bowel all around. I endeavoured unsuccessfully to separate it. The distance from the internal ring was at least an inch and a half. I then dissected off the fascia of the canal, between the internal ring and the exposed intestine, and opened into a second sac, which did not contain fluid; this was likewise filled with small intestine, but unaltered in appearance and colour; it had not been strangulated. Then drawing asunder the two protruded portions, I ascertained that a rounded band of membranous matter surrounded the line of junction, and that this band had become adherent to the intestine in several places, between which a director was passed with facility, and each was divided. The continuity of the bowel was then uninterrupted, and I returned it all into the abdomen. The communication between the upper portion of the intestine and the abdomen was perfectly free; so much so, that the division of the upper part of the sac was followed by the descent of a considerable portion of intestine.

It may be difficult to explain the nature of this unusual state of the parts; the changes are so gradual when time is allowed for them, that we cannot be too cautious in offering a solution.

The opinion, however, that I have formed of the foregoing case, is, that the lower and strangulated portion of intestine existed alone for a considerable time, as the only part protruded. It then contracted adhesions to the internal ring, and that, by some more recent effort, the second portion was forced down, pressing before it the first, with its adherent peritoneum; and it thus carried with it the material for its own strangulation.

Supposing an attempt had been made to relieve this patient without dividing the sac, I presume the incision would have been made with a view to the direct division of the internal ring. This, doubtless, might have been accomplished; the intestine would have been returned, and the patient would have died.

On the whole, I cannot persuade myself that any advantage can accrue from the newly-revived operation, at all tantamount to the objections that may be urged against it. I conceive that, far from simplifying the operation, it enhances its difficulties, and that although it may be occasionally practicable to return the intestine without opening the sac, in a few rare and recent cases, yet that, as a general rule, will always be attended with a certain amount of danger, which may never be suspected until it is beyond the reach of our art to remedy it.

I conceive the greatest improvement of which this branch of operative surgery is susceptible, is that to be derived from enforcing the necessity of its early application. That the protracted employment of cold, repeated warm-baths, extensive venesection, tobacco injections, and, worse than all, manual violence, should be abolished, as producing, in the aggregate, more injury than they occasionally afford advantage.

Comparatively speaking, there is no danger in an early operation for hernia, supposing it to be judiciously performed.

The practice of twenty years ago employed the catalogue of means I have enumerated in a formal and precise routine, and a period of six, eight, or even twelve hours, consumed in fruitless attempts to avert the operation, only left the patient with a fluttering circulation and an exhausted nervous system, to sustain a new and overwhelming shock.

It should never be forgotten that the protruded part itself is the active, the stricture the passive, cause of strangulation; and the manual efforts at reduction can never be employed with so much advantage as at first. As effusion advances, the tension becomes greater; the longer the period that has elapsed, the less prospect of good derivable from any substitute for the operation. Modern surgery abridges the catalogue of means employed, and with the best effect. If I have correctly observed, the proportion of fatal cases has greatly diminished. But I conceive that these means might yet be considerably restricted.

It is difficult to lay down a general rule as to time, so much depends on the degree of tension of the stricture: where this is great, I would forego the application of any means interposed between the taxis and the knife. From four to six hours, when the stricture is tight, is sufficient to accomplish as great an amount of mischief as the powers of the constitution can safely withstand.

I am, sir,
Your obedient servant,
F. C. SKEY.

Charter-House Square,
March 28, 1837.

ANALYSES AND NOTICES OF BOOKS

“L'Auteur se tue à allonger ce que le lecteur se tue à abrégé.”—D'ALEMBERT.

Medico-Chirurgical Transactions, published by the Royal Medical and Chirurgical Society of London, for 1836.

THE Medico-Chirurgical Society has become endowed with fresh vigour, and no doubt can possibly exist as to the mutation to the west having had a most felicitous effect. Many new members have become enrolled as Fellows, and there has been no lack of papers to fill up the time at their meetings, and the pages of their “Transactions.” The volume before us makes the twentieth, and as yet shews no indication of decay. The regularity with which we have reported the proceedings has enabled us to forestall much of the interest which

would otherwise have attached to the collection of essays now before us. Of seventeen papers, we observe but two of which we have not already brought the "pith and marrow" before our readers. To some of our notices we may, if space allows, make additions at a future time; particularly as regards the most important parts of two papers not previously noticed; and we may remark, by the way, that this omission arose from no fault of ours, but from the communications alluded to not having been read at any of the Society's meetings.

One of these consists chiefly of a collection of letters and statements furnished by different practitioners, in answer to a circular requesting information, addressed to them by Dr. Thomson, of Edinburgh, and his son, Dr. William Thomson. The other paper being a very short one, and the case very curious, we give entire.

A Treatise on Painful and Nervous Diseases, and on a new mode of Treatment for Diseases of the Eye and Ear. By A. TURNBULL, M.D. Third Edition.

THE above work includes the medical history of Veratria, Delphinia, and Aconitine, with some remarks on the treatment of diseases of the eyes and ears. Of these three alkalies the last, in our opinion, bids fair to be the most useful,—and for this, as well as for other reasons, we shall confine our extracts to the chapter on this substance.

Dr. Turnbull compares the effects produced by aconitine with those caused by the plant (*Aconitum Napellus*) from which it is obtained, and he shows them to be identical. This is a fact of some practical importance, since it proves that we may employ other preparations of the plant as substitutes for the more expensive and scarce aconitine. When applied to the tongue, or rubbed upon the skin, Aconitine "*causes intense heat, tingling, and numbness, which continue for more than twelve hours.*" The chief sensations arising from Aconitine, when used in disease, as may be seen from the description of their feelings by the patients whose cases are

related in this work, are *acridity, or tingling and numbness.*"

"When a grain of Aconitine is mixed with two drachms of lard, and a very minute quantity of this is applied to the *eye*, the heat and tingling are almost insupportable, and the *pupil* becomes *strongly contracted.*"

The combination of heat and tingling, or electric-like feelings, produced by Aconitine, as well as by some other substances, Dr. Turnbull expresses by the term *electro-stimulation*.

We have quoted Dr. Turnbull's account of the effects of Aconitine (which agrees with our experience of this substance), because we had occasion in our last number to correct the statements made on this point by Mr. Phillips.

The principal therapeutical value of Aconitine is observed in neuralgia, and Dr. Turnbull has related several remarkable cases cured by it. Some illustrations of the beneficial effects of it in painful diseases have been published by Mr. Skey, in the *MEDICAL GAZETTE*.

Aconitine may be given internally in doses of 1-16th of a grain, or it may be employed externally in the form of ointment, embrocation, or plaster. As a cheap substitute, the tincture of the extract may be used. Here are Dr. Turnbull's formulæ for them:—

Tincture of Aconite.

Macerate one pound of coarsely powdered Aconite Root in two pounds of Rectified Spirits for seven days, and filter. —Dose, five drops three times a-day.

Alcoholic Extract of Aconite.

Evaporate the Tincture of Aconite to an Extract.

Aconite Pills.

R Extr. Aconiti Alcohol. gr. ij.; Pulv. Glycirrhz. gr. xii.; Syrup. q. s. Ft. Pil. xij. quarum sum. una tertiis horis.

Dr. Turnbull's work will be read with great interest by persons afflicted with neuralgia and other painful diseases. The profession is certainly indebted to him for drawing the attention of the public to an important, very potent, and much neglected class of substances.

MEDICAL GAZETTE.

Saturday, April 1, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

CURRICULUM

OF THE

NEW UNIVERSITY.

Just as the House of Commons was rising previous to the recess, an amusing little question and answer took place between two worthy members, who very much resembled a celebrated pair in the *Beggars' Opera* :—

MR. TOOKE.—Sir, I should wish to procure some information regarding the new University from the honourable member for Bridport—who, I believe, is the only Fellow of that establishment now in the House: the points it would be desirable to know are—whether the officers have yet opened their charter?—whether business has begun?—and lastly, whether the curriculum have been determined?

MR. WARBURTON.—I have much satisfaction in being enabled to answer these questions in a straight-forward and categorical manner. The papers have been opened; business has begun; and the subject of a curriculum has been laid before a Committee specially appointed for the purpose.

What a neat little morsel of drama we have here! The puff collateral—indeed the direct—is but ill disguised; while the means of spreading the announcement is not to be equalled. And how convenient to have so ready a friend as the member for Truro! He is full of anxieties about the new University—in fact, feels a kind of paternal love to the latter, being, in his opinion, nothing more than an offshoot of the joint stock. With such views, it is not surprising that he should be seized with fits of ignorance, and publicly apply to his friend of Bridport for news. Nor can it be supposed that Mr. Warburton feels any-

wise loath to set himself forward in the House of Commons as the representative of the University: he will do it with great pleasure—will identify himself with it—and be abundantly recompensed, as they say, by the celebrity of the lofty position.

But, after all, what important news was communicated by the learned member for Bridport? Business had begun; things were in training. We had said so to our readers a short time earlier, when we exposed and discomfited the jobbery of the registrarship. A more disgraceful piece of intrigue than this for the beginning of business—and more especially as it was attempted to be controlled by an overbearing grasping hand—never perhaps so narrowly escaped the public indignation. Let it pass, however: we are given to understand that a learned physician of the provinces has been appointed to the situation.

As to the announcement about the curriculum, we do not wonder why it attracted so little previous attention. People are so familiar with the name of Warburton, in connexion with all kinds of omnibuses, conveyances, &c. that a new *curriculum* seems to be something on a trifling scale. The learned member for Bridport was therefore obliged to advertise it himself.

And now the said curriculum being a fair subject for conversation and pen, let us see whether we may not suggest something to the worthy councillors in the furtherance of their labours. There are, in the first place, more than one point of view in which the boundaries are to be contemplated. Who are the individuals likely to seek for the degree of the University of London?

As we should group them, the following candidates would occasionally present themselves :—1. Those who would secure an Erlangen, Heydelberg, or other convenient degree, but should

find that the expense and trouble here were very little more than at the distance: besides, those honorary degrees by return of post have long since begun to be blown upon. 2. Those who would find the Metropolitan establishment much more commodious than the Edinburgh or other Scotch University, but at the same time not very much more expensive: of course if the medical degree here undersell that of Scotland, it will attract a lot of graduates, particularly if certificates be taken in an extensive range. 3. Of the class who would submit to an ordinary medical curriculum, with a preliminary degree in arts (should such an arrangement be rendered necessary), we can foresee no extraordinary number among the future M.D.'s of the metropolis. 4. But should the curriculum prove fanciful, pitched for a soaring flight, and no attempt be made to render the career of the University singular, so as to puzzle and confound the public, there may be a madcap or two to persevere in arriving at the degree; but the greater likelihood will be that ere then the plans will have settled more rationally, or evaporated into smoke.

A curriculum must be guided by practical purposes; it is all very fine to draw up a dashing sketch, so as to attract the public notice, but the novelty being gone, the ludicrousness of it begins to be seen. The *purpureus pannus* soon wears off, and a plain sound coat of drugget would be far better than their showy rags.

There is, we acknowledge, no slight difficulty in arranging the curriculum in the present instance. Different interests in the council are opposed to each other; nay, there is an influence wholly external to the establishment, which would fain have the entire regulation of the curriculum, and is backed by the Warburtonians. The busy people to whom we allude have always been notorious

for planning, quarrelling, intriguing, and are even now said to be exercising the grossest partiality in admitting some courses into their *beau ideal* of a curriculum, and excluding others: yet these are the very people who, some years ago, wound up the public attention by great names and promises: they even devised the *ad captandum* title of the masters of medicine and surgery, &c., to be duly bestowed at the end of a certain period: but the wretched trick was too palpable; during the several years in which they offered the bubbles for sale, they could only meet with *one* dupe to become an M.S.L.U.! Even the Collegium Wakleyanum was more clever than this: during the few years that that institution subsisted, *in the newspapers* (it has since been regularly merged in Mr. Warburton's schemes), we have heard that many dupes were fished up, particularly from the country, and thus the current expenses of advertising were defrayed. But to return to our speculators in degrees.

It is clear that they have never been successful in managing for themselves, yet they are determined to thrust their suggestions on the Council. Some of the Council support them.

Now, why is this joint-stock company of teachers so pertinacious in interfering where well-ordered members of the community would wait till called upon for their opinion? The same longing for monopoly which has ever characterized them—the same pitiful hankering after the supposition that there is a peculiar and direct connexion between Gower-street and the University in the Strand—and, in the last resource, the desire of interfering in some shape or other, were it only with the affectation of some old mystical connexion.

Such is one of the parties who endeavour to control the "curriculum." We can at present only glance slightly at one or two others. It is impossible not

to suppose that there are some men of good common sense at the Council, who must see that if the requisites for a London degree be pushed to an inconvenient extent—whether as regards time or money—the market will be deserted; and the cause of the failure will be generally understood. On the other hand, there is a party of some little strength—two of the principal examiners at the Apothecaries' Hall—who, we apprehend, can never consent to a plain medical degree. They obviously perceive, that if the new course do not advance considerably beyond *their* present curriculum, the Hall of the Society will be abandoned, and the great majority of students will become doctors. Here there is a dilemma, and a great clashing of interests; but we must reserve ourselves for a few more remarks on another occasion.

MR. VANCE.

THE medical profession and the public have been shocked by the recent melancholy event which has led to the decease of Mr. Vance.

It appears that on the 21st instant he was in attendance on a gentleman in a state of insanity; who rushed suddenly from his room as Mr. Vance was ascending the stairs, and struck against him with such violence as to precipitate him to the bottom, where he pitched with his head against a flower-pot, from which he received an injury of the head, with an immense scalp wound, which was followed by erysipelas. He lingered a week, and died on the Tuesday following.

Mr. Vance entered the medical department of the navy in 1792, and was promoted to be a full surgeon two years after. He then served at sea for twelve or fourteen years, when he was appointed one of the surgeons of Haslar, the great naval hospital. Here he acquired the reputation of a good operative surgeon; but, in consequence of some differences which occurred, he, as well as several other surgeons, were removed; and his next service was in a small hospital at Panton, in Devonshire, where he married. He had several

children; and it is remarkable that his eldest son met with a violent death a few years ago, having been killed by a fall from his horse at Oxford.

At the peace of 1815, Mr. Vance was restored to his old quarters at Haslar, from whence he was once more removed to the charge of Greenwich Hospital in 1819. Soon after this he was allowed to retire on the invalid list, and settled in London, where he met with considerable success, practising, we believe, in all departments of the profession, except midwifery. Mr. Vance had rather a high reputation among the fashionable circles of the metropolis, and certainly enjoyed great opportunities of acquiring knowledge; but as we are not aware that he ever published a line on any subject, it is impossible to judge of the soundness of his claims; and if he had made any superior acquirements in medical science, they must now be buried with him in the tomb.

Mr. Vance was a very large flabby man, in his sixty-seventh year; circumstances to which the fatal consequences of the accident are probably in some measure to be ascribed.

ANECDOTE OF MR. VANCE.

To the Editor of the Medical Gazette.

SIR,

THE following anecdote may illustrate the character of the late Mr. Vance.

Not long ago, I was in consultation with him in a case of lunacy. It was one of those cases in which the mind is subject to alternate days of hope and despondency, — depending, possibly, upon organic disease. There was a reluctance on the part of the relatives of the patient to view the case in the light of mania. On account of this reluctance, the consultation with Mr. Vance took place. He gave his opinion without hesitation after carefully considering the malady, proposed the propriety and necessity of “a keeper,” and distinctly informed the patient’s nearest relative of the error of delay. When the patient had withdrawn, and we were in conversation together alone, Mr. Vance said, “That gentleman is mad—I should not be surprised if he were to inflict some injury on those about him.” “God forbid!” was my ejaculation: “however,” I added, “he is not fierce.” “His not

being fierce," returned Mr. Vance, "is no guarantee even for his wife's safety. No one can possibly foretell what a madman will do from one moment to another. It is sufficient that he is mad to awaken our suspicions. *I never feel safe in the presence of a madman.*"

The accuracy of his judgment has been demonstrated by the catastrophe of his own death.

No one could converse long with Mr. Vance without being gradually won by his address and tone of mind. Good sense was his remarkable attribute, and his conversation, plain as it was, was rendered attractive by anecdote and the conviction of the speaker. His death is a warning that an untimely end waits even on the good.—*Nulli certa domus.*

Yours, &c.,

J. A. HINGESTON.

Finsbury Circus, March, 29, 1837.

THE PARLIAMENTARY INQUIRY INTO THE PRESENT STATE OF THE POOR-LAW.

To the Editor of the Medical Gazette.

SIR,

Now that a Parliamentary Committee is appointed to inquire into the administration of the New Poor-Law Act, and of course, into the subject of medical relief, as a branch of that administration, I doubt not that many a ministerial supporter, many an indifferent spectator, many a member of certain "councils," (like your correspondent "Chirurgus,") too loftily situated not to feel "bored" with the endless clamour of the "subordinates," will exclaim—"What more do you want? Here is a committee prepared for an unlimited and impartial inquiry; if your complaints are well founded, they will certainly be redressed; you have obtained all you can wish for; further agitation of this

I ask, sir, is this hasty satisfaction, this hollow complacency, justified by a closer view of the case?—Let us see.

subject is needless, factious, and vexatious."

1st. The composition of this committee. Seventeen out of twenty-one of its members are avowed advocates for the New Bill, some of them are even Guardians of unions. Is it probable that these gentlemen will or can investigate their own actions impartially? Will they criminate themselves? A noble Lord on the opposition side of the House, a person of high character, and of inflexible independence, when requested by the Secretary of State to be on this Committee, declined to act,

and afterwards is said to have declared as a reason for his refusal, "I consider it a job, and will not be seen in it!!"

2dly. The duties of this Committee. Lord John says, they are "to inquire into the administration of the relief of the Poor, under the rules and orders of the Poor-Law Commissioners." What portion of this inquiry will be devoted to the medical department? and if a fair portion, why was not a Committee appointed specifically for this most important and very distinct subject? I answer, because it is intended that the medical grievances shall be swamped in the general investigation; because the display of retrenchment, the triumph of political economy, the high-sounding assertions of interested parties, "that the Act works beneficially," will be accumulated, to stifle the just complaints of the Sick Poor, and of their oppressed medical attendants.

3dly. The course of proceeding adopted by this Committee. The publication of evidence during the progress of the inquiry is prohibited!!* The agents of the Poor-Law Commissioners are to be in constant attendance to "get up a case," to meet the facts alleged against them, and therefore no opportunity will be afforded to the friends of justice, whether in or out of the profession, to expose the delusions, the sophistry, and the misstatements, which will emanate from Somerset House." The wily Secretary of State knows that the "success" of his measures depends on a clandestine examination, and on a packed Committee: and with fair professions to the House, and to the public, he has doubtless predetermined, if not the very terms, yet certainly the nature of the forthcoming report.

What will the honourable member for Finsbury do? What can he do? I give him credit for being really desirous to effect a beneficial alteration, and for active exertion in the cause. But again, I say, what can he do against an overwhelming majority? Has he not failed in carrying his original motion? Will Walter, Harvey, and Hodges, anxious for an extensive alteration, if not a repeal of the Law, and employing the medical grievances merely as one of many instruments to accomplish their object, I ask, will these gentlemen devote a patient attention to what they conscientiously believe to be but a minor portion of the mischief at work?

4thly. The kind of evidence which will be adduced. Look, sir, at the Appendix to the Second Annual Report of the Poor-Law Commissioners (page 285); behold twenty-eight clergymen, magistrates, guar-

* Our correspondent must, ere now, have observed that the evidence is in course of publication in the *Times*.—ED. GAZ.

dians and relieving officers, coming forward to state their conviction that the best mode of supplying medical relief to sick paupers, is to appoint one medical attendant to a population of 20,000, and that the practice thus adopted in the unions answers the purpose!!

Can there be any folly, any injustice, any cruelty, which may not be defended by persons whose weakness of intellect, personal predilection, or pecuniary interests, obscure their perception of a principle as clear as day-light?

And who can be brought to refute this evidence? Will the poor appear? They dare not: woe to that unfortunate labourer who, after having publicly complained of the injury which he or his family have sustained, applies, when again suffering the horrors of destitution, for relief to the very "Guardians" against whom he has witnessed.

Will medical men speak out? No; their direct and indirect dependence on their wealthy neighbours, and their dread of "unpleasant consequences*," will effectually close their mouths, or array them in opposition to the independence of their profession. Besides, will not the new "wide-field" officers be called to give evidence, and will they not depose every thing that is agreeable to their patrons?

What, then, will be the result of this investigation? Why, that numerous "well-qualified" medical men are found ready to undertake the care of Unions; that many are satisfied with the remuneration, and with the diminished trouble, under the new system; that no medical man is compelled to accept an office which he does not like; and that the terms are generally proposed by the medical men themselves. Moreover, that this method of "combined distribution†" affords an excellent opportunity for introducing active and talented young men into practice, to the abolition of monopoly, and to the great benefit of the community.

I will neither detain the patience of your readers, nor occupy your pages, by demonstrating the utter fallacy of such conclusions. This has been done over and over again. My object is to shew the little advantage likely to be derived from this Parliamentary Committee.

Is there, then, nothing to be done? Yes, medical men may do much; the Colleges may do much, notwithstanding the ingenious extenuations and excuses of "Chirurgus."

Let me ask that gentleman,—supposing the government were to enact (as, in the present aspect of things, is highly probable) that the great medical charities of the kingdom, being injurious to the "independence*" of the poor, should be put under the control of the Poor-law Commissioners; that the surgeons of the London hospitals should be required to furnish periodical reports, to account for their conduct, to attend the summons, and to submit to the decisions, of some new triumvirate of Commissioners,—would the College of Surgeons then be quiet? Would they wait till "cases were referred to them for their decision?" Would they not exclaim loudly and powerfully against such a preposterous infringement of the rights of influential members? Why, then, is a measure which presses with still greater severity on the privileges of less distinguished members to be thought unworthy of attention?

Let it not be supposed that the case I have put is far distant. The Irish hospitals are already placed, or about to be placed, under this extraordinary control. In one of the sections of the Irish Poor-law Bill, it is enacted that the Commissioners are authorized "to visit, and inspect, and inquire into the management of every hospital—to require an account of the income and estates of such hospital—to make such orders as they may see fit for the government of every such hospital, and the officers thereof." And for disobedience of the Commissioners' orders, these officers may be required to appear before any two justices of the peace, and, upon conviction, they will be liable to "such penalties and punishments as are hereinafter prescribed!"

Surely the Irish surgeons will not submit calmly to a domination unheard of in any other profession.

But to return to our own College, which we are informed *has* made representation to the Secretary of State. Let it continue to make representations, to urge, to protest, on behalf of its 8000 members; and let the commonalty bestir themselves. Petitions should be unanimously and promptly signed, asking for a fair remuneration—for the abolition of tender—for the separation of drug-selling from professional attendance—and for the supervision of the medical department of the Poor-law by a medical Board, as recommended by your active correspondents from Buckinghamshire.—I am, sir,

Your obedient servant,

CHIRURGUS RUSTICUS.

March 18, 1837.

* See the letter of a practitioner, published in the Report of the Committee of the Provincial Association, and quoted in a late number of the MEDICAL GAZETTE.

† See the Second Annual Report of the Poor-law Commissioners.

* See the writings of Dr. J. P. Kay, both before and after his accession to the honourable post of Assistant Poor-law Commissioner.

CLINICAL OBSERVATIONS ON
OPENING ABSCESSES.*Delivered at La Pitié,*

BY M. LISFRANC.

[From the Gazette des Hôpitaux.]

IF you consult those books which treat of abscess, you will find it laid down as a general rule, that where the abscess is of small size, it ought to be left to nature to effect an opening, because this, it is said, will be small, and consequently leave but an inconsiderable cicatrix. According to this view, small abscesses are to be left to themselves, provided they be not too indolent, nor advance too rapidly. But I reject this method; for if the aperture made by nature be small, why should not that made by art be made small likewise? It is only necessary for this purpose that we use an instrument with a narrow blade, and that we make a simple puncture.

Again, before opening an abscess, it has been thought that we must wait till the matter be well formed, or in other words, till the abscess be ripe, although to this some exceptions have been made, as with regard to abscesses in the abdominal and thoracic parietes, and those situated in the neighbourhood of tendons and joints. I have opened such abscesses before they were well formed, and what has happened? As long as I confined myself to the method recommended in books, I did not reach the root of the malady. Convinced of its insufficiency, I attempted to combat the inflammation excited by the pressure of the pus in the surrounding soft parts, by fomentations and local bleeding. Immediately after opening the abscess, I applied leeches, which were more efficacious in proportion as the swelling was recent.

This first satisfactory result soon led me to another; sometimes the leeches partly failed, and the induration passed into a chronic state. In conformity with the principles which I laid down in treating of white swelling, I allowed this state to remain undisturbed three or four days, after which I successfully attacked it by means of frictions with ointment of hydriodate of potass and ioduret of lead, as well as by compression, when necessary.

One objection only remains to be refuted—that of the pain, which was supposed to be greater in this than the ordinary method. It is true that the pain of the incision is a little more acute when an abscess is thus prematurely opened, but it only continues a few moments, and accordingly I hold that abscesses ought to be opened as soon as the existence of pus can be detected. I have followed this practice

for fifteen years, and I need not remind you that you have yourselves been witnesses of its success.

If you have to open an abscess of small size, as for instance that of an egg, and if the skin be thinner at the centre than any where else, you must make your opening there for two reasons; first, because the integuments being thinner, the instrument passes through a smaller extent of integument, and consequently gives less pain, and also because the incision gives to the integuments a slight degree of stimulus which facilitates their cicatrization: it is also very easy to prevent the pus from stagnating in the abscess by making pressure on its parietes. For larger abscesses it has become an established rule to open them at the most dependent part, unless there be some important blood-vessel or nerve in that situation.

If, in order to arrive at the abscess, you have to pass through a muscle, the incision ought to be made in a direction perpendicular to the action of its fibres—that is to say, that when the muscle is broad, you must cut across; but if, on the contrary, it be narrow, your incision must be parallel to the fibres, to avoid the risk of dividing it altogether. If in the case of a broad muscle, such as I first supposed, your incision were parallel to the fibres, it would almost always happen that the aperture would be completely closed by their contraction. You have lately witnessed a remarkable case, which I may quote here. A patient, in the ward of St. Louis, had a large tumor on the thigh, which not only afforded the ordinary signs of fluctuation, but evinced a distinct gurgling. I practised an incision parallel to the axis of the thigh, at the most dependent part: nothing was evacuated. I introduced a hollow sound into the wound, but still nothing came out. I then made another incision, at a point where the fluctuation was still more evident, but with the same negative result. The patient was very nervous, and his muscles contracted with force. Astonished at the circumstance, I next introduced a grooved sound along the blade of the bistoury, which yet remained in the wound; but still no pus made its appearance. My next proceeding was to make a movement with the two instruments, in such a manner as to separate them and prevent the contractile action of the muscular fibres: then, at length, the pus found an exit. I request your attention to this point, which is a very important one, for I am persuaded that it happens very often, particularly when the fluctuation is not very evident, that the surgeon, after having made his incision, erroneously supposes there is no pus, merely because the opening having been

made parallel to the direction of the muscular fibres, their contraction again closes up the aperture.

Abscesses of the neck ought to be opened by means of a simple puncture. I do not now allude merely to small abscesses: I have opened, in this manner, purulent depôts of considerable size, and, although the extent of the incision was not in proportion to the collection of matter, yet was all the pus evacuated, while the cicatrix which remained did not exceed that of a leech bite. This precept is of great importance, not only to the welfare of the patient, but to the reputation of the surgeon, and, in this double view, merits your attention. The following is an illustration in point:—I was called, three years ago, to Belleville, to open an abscess on the neck of a young lady, which I effected in the manner above recommended. In the same house was a child, having an abscess similar to the other in situation and nature. A practitioner there opened it by an incision of an inch in length, and had reason to repent of having done so; for the comparison of the two children, after the healing of the wounds, was very disadvantageous to him; the wound in his patient having healed slowly, and left a large cicatrix.

In abscesses of the neck, owing to the smallness of the aperture, the want of freedom with which the pus flows, and its remaining about the cellular tissue, there may be a little lodgment at the lower part, forming a kind of *cul de sac*, whence compression is insufficient entirely to dislodge the matter. In such case it is necessary to make a small counter opening, cutting upon the grooved canula, so as to make a second incision, no larger than the first, and thus the two look like leech-bites. The same precepts apply to those parts generally which are habitually exposed. In the neck, as on the forehead, the incision ought to be transverse,—that is, in the direction which the folds of the skin naturally assume in those situations.

In those parts, however, where the appearance of the cicatrix is not an object, modern surgeons make incisions of several inches where the abscess is large; and experience has proved the advantage of this practice. The bistoury is to be held in the first position: the two last fingers, separated from each other, and extended, are to be placed, if possible, beyond the tumor, as a *point d'appui*: the tissues which are penetrated must be divided in a perpendicular direction: the middle finger, placed on the blade of the instrument, serves to regulate the depth of the incision. This is very important, for if the instrument cuts ill, or if the texture be hard, we

are under the necessity of pressing more strongly on the parts to be divided; and without the precaution of having the finger as I have described, we should incur the risk of plunging in the instrument too far. Besides, it is easy to push the bistoury farther in if necessary, by drawing back the finger on the blade of the instrument. We must do all gently: thus, when the blade arrives in the collection of pus, the hand will perceive the fact, because the knife is now passing through a less resistance than before. The only exception to this is where there are muscular contractions of a nature to interfere with the resistance. I cannot well give you a measure of the slowness necessary in this proceeding; but always remember this fundamental principle in operative surgery—*tuto* is better than *cito*.

I have advised you to make the instrument penetrate the integuments perpendicularly: this rule applies to all such punctures, and it is proper that I should point out its importance. If the bistoury traverses the textures obliquely, it will have to pass through a greater extent of them, and hence, consequently, there is more pain; hence, also, the exit of the matter is less free, and probably we may have infiltration of the surrounding parts in consequence. Besides, in abscess on the parietes of the abdomen, there may be a hernia without any indication directing our attention to it. I was called by Dr. Piorry to a woman who had received a kick on the belly, in consequence of which an abscess had formed there. The patient was carefully interrogated, and assured us that she had never suffered from any symptom connected with the digestive organs,—there had never been any thing indicative of hernia. However, I opened the abscess cautiously, when a gush of purulent matter escaped, and I then saw that there was a knuckle of intestine floating in the tumor. What would have happened had I thrust the instrument into the tumor with that degree of *brusquerie* which some affect on all occasions?

An abscess deep in the parietes of the chest or abdomen may be actually in contact with the pleura or peritoneum, while that in the neighbourhood of a joint may reach to the capsular ligament. If, then, you open abscesses of this nature with no more precaution than what is generally adopted—and especially if the muscular contraction prevents you from judging when you have passed from the more into the less resisting part—or, if the abscess be not entirely filled, I repeat, that under such circumstances you incur the risk of penetrating the pleura or peritoneum. It is therefore imperiously necessary to

open the abscess as carefully as if it were a hernial sac.

I must not forget to add, that in proportion as the incision is made, the fore-finger being introduced into it, enables us the better to appreciate the depth at which the collection of matter is situated. I know that this is painful to the patient, but the suffering is not of a nature to have any effect upon his health, and we must above all attend to his safety.

If the abscess be in the course of a large nerve or artery, you are told to make the incision so as to avoid it. But the tumefaction and induration of the parts are such, that you cannot recognize their relative situation; and although anatomy tells us the natural situation of the vessels, yet the development of an abscess often changes the relative position of the surrounding parts. If the artery and nerve in question always retained their wonted place, there would be no difficulty; but, as I have said, they are frequently displaced, and if you cannot ascertain their new position, what are you to do? Certainly, not to imitate those practitioners who, in order to conceal their embarrassment, declare the abscess to be not yet mature, and so postpone opening it. This delay may be attended with the worst consequences. If, for instance, an abscess be situated in the neck, near the carotid artery, the jugular vein, or the eighth pair of nerves, or great sympathetic, in the midst of the fine loose tissue of that region, the matter may find its way into the chest, or, according to Desault, even into the abdomen. It is, therefore, urgently necessary to open all such abscesses very promptly, and it is now twenty years since I have adopted this method. Take the neck as an example: I there make an incision parallel to its axis, and which divides layer by layer successively the skin, the cellular membrane, and, if necessary, the superficial aponeurosis. I next take a blunt probe, and limit the extent to which it is to penetrate the textures, by holding it between the thumb and fore-finger. I then introduce this to the bottom of my incision, and make it pass on by separating, or rather pushing aside, the fibres of the parts beneath. Whenever the instrument has entered the abscess, there is a cessation of resistance, besides which I perceive drops of pus oozing along the sides of the instrument. I then push it upwards and downwards, so as to enlarge the opening, and thus the matter finds a ready exit.

Such is the result of twenty years' experience, and I have never yet met with any accident from hæmorrhage; I am therefore inclined to believe that those surgeons, otherwise very able, in whose

hands such occurrences have taken place, have either been ignorant of, or neglected, the precautions here laid down.

ST. GEORGE'S HOSPITAL.

Results of Operations—Amputations of the Leg—Amputation of the Fore-arm—Operation for Necrosis of the Tibia—Laryngotomy—Removal of Nævi—Operation for Hydrocele—Compound Fractures of the Leg: amputation refused.

BEFORE speaking of the operations performed since our last report, we will return to the former cases, in the order in which they were then detailed.

The case of *amputation of the leg*, performed by Sir Benjamin Brodie, February 16th, ended fatally on the 10th March, by inflammation of the veins, till which time the man continued in an irritable condition, with occasional rigors, and gradually sunk. On dissection, it was found that the femoral vein, from the stump to its junction with the saphena, contained a good deal of coagulum adherent to its surface, and softened in the interior, but without much inflammation of the inner membrane; above this point, however, to the bifurcation of the common iliac vein, the inner surface was much inflamed, and contained both lymph and pus; and part of the internal iliac vein was in the same condition.

The case of *amputation of the leg*, performed on the same day, by Mr. Hawkins, healed extremely fast, after a little sloughing on the first dressing; and the man left the hospital March 16th.

The child on whom the operation of *lithotomy* was performed, has had some pain occasionally, and has had the urine alkaline, but seems otherwise in good health. It has been sounded again without any feeling of stone.

The operation for *deformity of the lip*, performed February 23d, by Mr. Walker, has answered very well, the girl having now recovered from the erysipelas which supervened. So also has the operation for *ectropeon*, performed by Mr. Hawkins, so that both eyes are now in a better state than the young woman recollects at any former period of her life, and the cornea of both eyes is gradually getting clear.

The lad from whom Mr. Hawkins removed a large calculus on the 2d instant, went on very well for several days after the last report; after which time he felt weak and lost his appetite, and appeared anxious about himself, and in a day or two was attacked with considerable inflammation

along the inguinal canal and in the testis; the whole of the vas deferens, no doubt, being inflamed, a circumstance occasionally observed after lithotomy. The parts continue swelled and tender, and there is a good deal of hardness on the outside of the inguinal canal, with some threatening of suppuration. The wound, in the meantime, has become very healthy, and the urine is secreted in a less alkaline state, and is less mixed with mucus than before the operation.

The case in which Sir Benjamin Brodie operated for *necrosis of the tibia*, on March 2d, has unfortunately terminated ill: the patient, after appearing to get the better of the erysipelas, mentioned in the last report, fell off again, and died in the third week. On examination of the tibia, it was found that the diseased cavity, near the head of the bone from which the dead pieces had been removed, communicated by a small opening with the knee-joint; the cartilages of the head of the bone being partly absorbed by the inflammation excited in this cavity.

The *amputation of the thigh*, performed on the same day by Sir Benjamin Brodie, and the other cases mentioned in the last report, have presented nothing remarkable, and are doing well.

On March 7th, two men were admitted; one with a compound and comminuted fracture of the leg, and a good deal of contusion around it, the other with much laceration of the leg, exposing the tibia, and with removal of some of the periosteum; the accidents having occurred in the Western rail-road. The former patient had his leg removed by Mr. Hawkins in the evening, the operation being performed partly in the injured parts, in order to prevent amputation above the knee. The bone was found to have been completely smashed in its central part, a great number of loose pieces lying in the wound. The man appears to have been irritable, and has had sloughing of the stump, with some ulceration of the skin, where it was injured, but the wound is now clean and healthy. Mr. Hawkins apprehends mischief, however, from inflammation of the saphena vein, and absorption of pus into the system, frequent and copious perspirations having been observed, with half coagulation of blood in the vein along the inside of the thigh.

On Thursday the 9th, Mr. Hawkins amputated the forearm in an old man of 65, by the circular incision, for disease of the wrist joint, of above a year's standing. The joint of the carpus between the first and second rows, that of the carpus with the radius and ulna, and that of the ulna with the radius, were all diseased, the bones being altered in shape by absorp-

tion, and portions being dead in each situation. The stump has healed very well since, and is now nearly well. After this Mr. Babington performed an operation for necrosis of the tibia in the usual way, removing some portions of dead bone from the interior, through an opening made by the trephine, in a girl 11 years old, who had necrosis of the other tibia also.

On Sunday the 12th, the operation of laryngotomy was performed in a patient of Dr. Wilson's, an unhealthy man, with inflammation of the larynx, probably erysipelalous, as he had erysipelas of the eye at the time, and has since had erysipelas of the ear. This patient had a threatening of suffocation a few days previously, from which he was roused by stimulants, but on this day the apothecary, Mr. Hamerton, found him nearly dying, with extreme difficulty of breathing, blue countenance, cold extremities, and failure of pulse at the wrist; and probably he could not have remained alive in this state many minutes. The house-surgeon, Mr. Ridout, immediately made a small opening between the thyroid and cricoid cartilages, and inserted a tube into the larynx, by which means the patient's respiration was soon performed better, and he recovered from the imminent danger in which he had been placed. Mr. Hawkins, who was sent for, enlarged the wound a little, and withdrew the tube, which excited irritation in the glottis, and attempted to keep the wound open by a piece of whalebone. This also was coughed up some time afterwards, and he breathed with greater facility without any thing in the wound. He has since recovered from the attack, and breathed naturally in a day or two, so that the opening was allowed to close.

On the 17th, the smaller operations for hydrocele and nævi were performed; the former by Sir Benjamin Brodie, with the injection usually employed at the hospital,—equal parts of port wine and water; the latter by Mr. Babington, in a young infant. One nævus was situated on the forehead, and broke under the ligature employed, so that caustic was applied to it; another, about an inch in diameter, and of some depth, was situated on the chest, and was tied by passing two hare-lip pins under it, and a strong silk drawn tight under them,—the nævus being punctured to let out the blood retained in it, so as to enable the ligature to strangulate it more completely.

There have been two other severe rail-road accidents, in which the leg was crushed severely, with fracture of the bones,—one on the 17th and the other on the 21st,—in both of which cases amputation was proposed by Mr. Keate, but refused by the patients. It is too soon yet to judge what will probably be the issue of the cases.

REMOVAL OF A PORTION OF LUNG

*Which protruded through a Wound, &c.**

BY W. FORDE, ESQ.

Assistant-Surgeon, 72d Highlanders.

A. FINGO, of athletic make and in good health, aged about thirty-five years, in an engagement with the Caffers, at the Tabendoda mountain, on the 28th of June, was transfixed by an azigai through the right side; the weapon entering opposite to the eleventh rib, three inches from the spine, and the same distance from the crest of the ilium; and making its exit in the right hypochondrium, midway between the umbilicus and the cartilage of the ninth rib, the opening being three inches distant from each; and the whole course of the wound, supposing it to be in a direct line, six inches in length.

The man immediately withdrew the shaft of the azigai through the anterior opening, and with it dragged forth a considerable portion of his lung. He was soon afterwards picked up by some wagons which happened to pass, and a greased rag having been applied to the part, he was conveyed to the camp early on the following day. When brought to me, his respiration was slightly oppressed and impeded, he inclined to the right side, but did not complain of pain. The piece of lung protruded was about five inches in length, and of considerable thickness, and the opening through which it had escaped, being merely an incision three-fourths of an inch in length, reduction of the part was impracticable without considerable dilatation being practised, a measure which, from the situation and nature of the wound, I deemed extremely hazardous, if not impossible. But the attempt to return the lung into its natural situation was unadvisable, its texture and serous covering having been much lacerated by the man's own endeavours to tear it away; I therefore determined on its removal, for which purpose I applied a ligature tightly round it, close to the integuments, and bringing the edges of the wound together by means of a strip of adhesive plaster, left the protruded lung undivided, until the process of adhesion should take place, and prevent one of two evils, which might have occurred had it been cut off immediately it was tied—namely, either that by the motions of the thorax and expansion of the lungs, the constricted part might have been drawn into the pleural cavity, conveying with it the ligature; or that the latter slipping off, and the lung receding, hæmorrhage into the sac have been the consequence.

On the third day, the desired adhesion

being perfect, and the separation nearly effected by the ligature, the piece of lung was cut off with scissors, and both openings dressed with adhesive straps. From this moment there was not one untoward symptom, and the only medical treatment necessary consisted in giving one dose of Epsom salts: for a few days there was a healthy discharge from the opening in the back, which gradually ceased, and the wound granulated; at the expiration of a fortnight the whole had healed, the man had quite recovered, and he can now run, throw his azigai, and perform any other active feat, as well as any of his most agile companions.

Reflecting on the situation of the openings caused by the entrance and exit of the weapon, and the apparently direct course in which it had passed, it might appear impossible that protrusion of a portion of lung, or a wound in any part of the thoracic parietes, could have occurred; and one would reasonably suppose a wound of the liver, ascending colon, or omentum, as more likely to be the consequence. I confess I am at a loss to account for the protrusion of a piece of lung (and lung it most decidedly was, having been carefully examined by assistant-surgeon Bickersteth and myself, and its texture and appearance could not easily be mistaken) in the centre of the right hypochondriac region, as connected with the apparent course of the wound, unless it be assumed that at the moment it was inflicted, the man had been in some extraordinarily crouching position.

Of necessity the diaphragm, with its pleural and peritoneal coverings, must have been perforated, and yet the man recovered without a single symptom of pleuritic, peritoneal, or pulmonic inflammation.

King Williamstown,
South Africa, Aug. 10, 1835

DILATORINESS OF THE APPEAR-
ANCE OF WORKS

ALREADY PARTLY PUBLISHED.

To the Editor of the Medical Gazette.

SIR,

WILL you allow me to direct your attention to a point which I conceive materially to bear on the welfare of medical literature, and which, in my opinion, considerably involves the respectability of its supporters—viz. the total absence of punctuality in the fulfilment of pledges made to the public by the editors of certain publications which issue from the press in detached parts?

No. III. of Dr. Copland's Dictionary of Practical Medicine, is dated April, 1835; beneath which date may be read a notice,

* From the Medico-Chirurgical Transactions.

that the fourth part "is in the press, and will be published shortly."

In the spring of 1835, Dr. Elliotson produces the first number of his new edition of Blumenbach's Physiology, appending thereunto the printed promise that the remaining part shall appear at Midsummer.

I sincerely hope that the conviction of utility with which these gentlemen commenced their works, has not been conquered; though surely no other consideration could have withheld them from the honourable performance of their promises. Pray, sir, reassure their confidence in the value attached to their writings; which being done, I feel convinced that their public spirit, no less than their private sentiments of justice and of honour, will at once prompt them to the execution of so sacred a duty as the discharge of their promise to the public, from which no change can absolve them, and the contempt of which no circumstance can justify.

I may also mention, that an interval of *four* instead of *two* months, separated the last two numbers of Dr. Todd's Cyclopædia of Anatomy; notwithstanding assurances of the most laudable punctuality as to the order in which the parts of that publication should issue from the press. It is to be hoped that such irregularity will not be repeated.—I am, sir,

Your obedient servant,

PHILALETES.

March 18, 1837.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, March 28, 1837.

DR. R. BRIGHT, THE PRESIDENT, IN THE CHAIR.

A PAPER was read—

"On Division of the Tendo-Achillis for the relief of some Deformities of the Foot."

The author related two cases of individuals affected with deformity of the feet, on whom he had practised the operation with complete relief. The first patient was a boy, about eight years of age, who came under his care in the last year. He was born healthy, and perfect in every respect; but as soon as he was put upon his feet, he was observed constantly to pitch upon the points of his toes. The undue extension of the feet gradually increased in spite of various instrumental means of relief which were used for several years, under the superintendence of a gentleman celebrated for the management of deformities, and the advice and assistance of many medical men of eminence. When the author first saw him, he was incapable of locomotion without

the aid of crutches, and even with this assistance he could only throw the lower extremities simultaneously forward during the artificial sustentation of the body. It appearing to the author that the deformity was attributable neither to spinal irritation nor to any alteration in the form of the individual bones, but solely to deficient length in the muscles, or their tendons, he resolved to divide the tendons of the gastrocnemii to obviate this condition. The operation was performed by passing a narrow curved bistoury downwards and outwards across the tendon, about two inches above the os calcis, and dividing it in the withdrawal of the bistoury. The external wound healed by the following day: in three weeks a firm band of connexion was formed between the cut ends of the tendon; and in rather more than five weeks the patient could stand alone. At the time the author wrote (six months after the operation), the patient could walk three miles without assistance. Casts of the feet were exhibited, illustrative of the former and present positions of the feet. The second case was one of the more common form of club-foot, in which the sole is turned towards the opposite ankle. In this case the operation was performed in the manner before described, and was attended with like success. The tension of the tendons of the tibialis anticus and tibialis posticus generally co-existing with the same condition in the gastrocnemius, the author thinks would, in all instances, soon yield after the division of the tendo-achillis.

A conversation of considerable length followed the reading of the paper.

MR. LANGSTAFF did not regard division of the tendo-achillis as a simple operation; its rupture frequently became a cause of lameness. In club-foot, to which the paper more particularly referred, the bones were generally more or less implicated.

DR. LITTLE referred to the experience of M. Stromyer, of Hanover, who allowed the divided tendon to unite again before he applied extension. He then gradually extended the lymph thrown out between the divided edges. This proceeding prevented, in a great measure, the chance of inflammation supervening.

MR. ALEXANDER SHAW showed some specimens of club foot, in which all the displacement was owing to a change in the relation of the ligaments and muscles to these bones. Even in the worst cases he thought a good result attainable by proper means. In congenital club-foot, he had examined the different bones, and found that they all retained their natural shapes. He was inclined in such cases to trust more to the effects of friction and motion of the different joints for restoring

the ligaments and bones to the natural position, and the tendons also.

Dr. LITTLE said it became necessary, in some cases, to divide the tendons of the flexor pollicis and tibialis posticus to get the foot straight; the tendo-achillis being divided afterwards, brought the heel down. He had seen this operation performed by Dieffenbach, at Berlin, and he (Dr. L.) had adopted the same proceeding in the case of a boy, fifteen years of age, in London. He was unable to walk, but now can do so, although with some difficulty.

Mr. LANGSTAFF repeated that he thought dividing tendons a serious matter.

Dr. LITTLE had, in no instance, seen serious consequences follow. Age was no barrier to the operation. Dr. Stromyer had operated on a lady fifty-eight years of age, who had suffered from the deformity fifty years. The only ill effects he had seen was in one case, in which there was considerable resistance to get the foot into its natural position, after the tendo-achillis had been divided. The heel, however, came down considerably. The operation under discussion touched on another important point in practice—namely, the treatment of wounded tendons. The operation had been first performed at Frankfort, forty years ago: the case did well. In a subsequent instance, another operator (fearful of dividing the tendon entirely) made an incision through half its structure, and stretched the other portion by means of an extending apparatus; the worst consequences ensued. Stromyer then commenced his plan of entirely dividing the tendon, and his cases were all successful: his incisions were very small, and approached to that of a punctured wound.

The PRESIDENT stated, that hereafter no papers would be published in the Transactions, unless previously read before the Society.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

- Henry Lee Hogg, of Bath.
- Charles Senior, of Huddersfield.
- John Bell.
- Claudius Montague Miller.
- Octavius Adolphus Field, of London.
- George Cooper, of Lympstone.
- Henry Brook, of Barnstaple.
- Thomas Frederick Butt, of Birmingham.
- Trevanion Verman Oates, of Falmouth.
- Richard Wm. Tamplin, of London.
- Arthur Joshua Nunn, of Wiltshire.
- John Randolph Ollive, of Barnstaple.
- Thomae Barrett, of Bath.
- Samuel Hey, of Leeds.
- Richard Wakefield, of London.
- John Wadham Robinson, of London.
- William Quinton, of Wolverhampton.
- Jos. P. T. Williams, of St. Cross.
- Edmund Yalden Knowles, of Surrey.
- John Borlase Stevens, of Exeter.
- Wm. Shanke Wigg, of Norfolk.
- Edward Smith, of York.

GUY'S AND ST. THOMAS'S HOSPITALS.

THE KING *versus* CARRINGTON, LINWOOD, AND OTHERS.

THIS cause came on for trial at Kingston, on Thursday, before the Chief Justice of the Common Pleas, and a special jury. It occupied the entire day, from half-past ten in the morning till the same hour at night, and the court was unusually crowded. Mr. Thesiger and Mr. Clarkson conducted the prosecution, and Mr. Platt and Mr. Turner the defence.

A great number of witnesses were called on both sides, and severely cross-examined; the counsel severally exerting themselves to the utmost, and displaying great ingenuity in maintaining the interest of their clients. The most effective part of the pleadings consisted in Mr. Thesiger's reply, which made a great impression.

After a clear and very temperate summing up, on the part of his Lordship, the jury quitted the box for a quarter of an hour, and returned with a verdict of acquittal of all the defendants of the charge of riot; finding the parties, Carrington, Linwood, and Musgrove, guilty of the assault. They were then impressively addressed by the Bench, and severally sentenced to pay a fine of 10*l.* to the King, and to find surety in 40*l.* for their good behaviour during two years.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Mar. 28, 1837.

Abscess	4	Indigestion	1
Age and Debility	43	Inflammation	26
Apoplexy	6	Brain	4
Asthma	16	Lungs and Pleura	5
Cancer	2	Influenza	3
Consumption	55	Insanity	1
Convulsions	31	Measles	8
Croup	3	Mortification	1
Dentition or Teething	1	Paralysis	1
Dropsy	3	Small-pox	1
Dropsy in the Brain	9	Sore Throat and	
Fever	7	Quinsey	1
Fever, Scarlet	4	Thrush	4
Fever, Typhus	1		
Hernia	1	Casualties	4
Hooping Cough	8		

Decrease of Burials, as compared with } 102
the preceding week }

NOTICES.

E. T. F.—We regret that we have been obliged to decline the communication. The sketches are unwieldy for the size of the paper.

Will VIATOR be good enough to give his name in confidence?

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, APRIL 8, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMA-
COLOGY, AND GENERAL
THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, ESQ., F.L.S.

LECTURE LX.

IN this lecture I propose to examine those
species of *Cassia* from which we obtain

Senna.

History.—Reiske, in his “*Dissertatio inauguralis exhibens miscellaneas aliquot observationes Medicas ex Arabum Monumentis*,” published at Leyden in 1746, states, on the authority of an oriental work (*De Medicina Prophetæ Arabici*) that senna was employed by Mahomet. If this be correct (and we may reasonably entertain some doubt, since the Arabic word which he translates senna has been by other linguists, as Golius and Warner, rendered cumin), this purgative was in use some centuries before any mention of it is made in the works of pharmacological writers. Among the Arabians, I may quote Mesue, Serapion, and Avicenna, who notice senna (sene), but they referred to the fruit, and not to the leaves. Mesue, in speaking of the decoction of senna, quotes Galen, and from this, as well as from other circumstances, it has been imagined that Dioscorides and Galen, and probably even Theophrastus, were acquainted with senna; but their known writings do not warrant this opinion, and hence the quotation is presumed to be erroneous. The earliest Greek writer in whose works senna is mentioned, is Actuarius; but he, like the Arabians, referred to the fruit.

Botanical history.—The leaflets, known in commerce by the name of senna, are obtained from several species of cassia, though from how many has not been accurately ascertained. Linnæus made but one, which he termed *C. Senna*, considering the acute and obtuse-leaved plants as mere varieties; and some botanists, influenced by his high authority, have committed the same error. The usually very accurate Woodville has published a plate, representing the leaflets of the acute-leaved with the fruit of the blunt-leaved senna.

The descriptions of the plants given us by those botanists who have visited the countries in which the senna plants grow, want that uniformity which is so necessary to enable us to place confidence in them. Forskäl, in his “*Flora Ægyptiaco-Arabica*,” mentions two species of cassia, namely, *C. lanceolata* (whose leaves are composed of five pairs of equal lanceolate leaflets, with a sessile gland above the base of the petiole); and *C. medica* (whose petioles are without glands). The first of these species, he was informed, was the true Mecca senna; and at Cairo he found senna leaves similar to those of the *C. lanceolata*. The Mecca senna of Loheia, he says, has leaves with from five to seven pair of linear lanceolate leaflets. He adds, that a great quantity of the senna called at Cairo Mecca senna, and in Europe Alexandrian senna, is annually sent from Abuarisch to Djidda.

In the “*Mémoires de l'Égypte*” for 1799, M. Alire R. Delile described two species of senna found in Egypt, namely, the *Cassia acutifolia*, whose leaves are composed of six pair of acute lanceolate leaflets, with glandless petioles, and *Cassia Senna* (now usually called *C. obovata*). The *C. lanceolata* of Forskäl has, he says, many relations with *C. acutifolia*, but the leaflets are narrower and smoother. He procured some Arabian senna, called at Cairo *sena Mekki*: it was unmixed with the obtuse-leaved senna, and was different to the

acute-leaved species of Syene (Assouan), which is mixed with obtuse-leaved senna. It was, he says, the production of *C. lanceolata* (Forskäl). The same author, in the *Flore de l'Égypte*, has accurately described and figured his *Cassia acutifolia*. He points out the distinction between it and *C. lanceolata* of Forskäl, and adds, perhaps it is the *Cassia medica petiolis non glandulosis* of Forskäl. In his "*Remarques nouvelles sur les Sénéés*," published in the "*Bulletin de la Société d'Agriculture*," for 1825, he directs particular attention to the distinction between his *C. acutifolia* and the *C. lanceolata* of Forskäl,—the latter having a gland on the petiole, while the former is without one.

In 1808 appeared the "*Voyage dans la Haute Égypte*" of Nectoux, in which are described two species of cassia, one which he calls *C. lanceolata*, or *Séné de Nubie*, and the other the *C. Senna* of Linnæus, or *Séné de la Thébaïde*. He describes the leaves of *C. lanceolata* as having from three to five pairs of leaflets: the petioles have a gland at their base, and another between each pair of leaflets. The size and shape of the leaflets, and the size of the legumes, do not at all accord with the figure given by Delile; so that these authors probably referred to distinct species.

Generic characters.—The plants belonging to the genus *Cassia* are trees, shrubs, or herbs, whose leaves are simply and abruptly pinnate, with opposite leaflets, and petioles frequently glanduliferous. The calyx consists of five unequal sepals; the corolla of five unequal petals. There are ten free unequal stamina, the three lower ones of which are longer than the four middle ones, which are straight, while the three upper ones have abortive deformed anthers. The anthers dehisce at their apices. The ovary is stipitate, and often curved: the legume varies. In the Linnæan arrangement this genus belongs to class *Decandria*, order *Monogynia*.

Divisions of the genus.—Decandolle divides the genus into eight sections, of which the one called *senna* contains eight genera, and is characterised by the obtuse sepals, the biporous anthers, the membranous, broad, plano-compressed, many-celled legumes, with transverse septa, scarcely dehiscent, swollen where the seeds are situated, internally nearly deprived of pulp.

1. *Cassia obovata* (Colladon).—This is the *Cassia Senna* of some writers; and the *sena-belledy* or *wild senna* of the Egyptians and Nubians. It grows spontaneously in Syria, in Egypt, in the neighbourhood of Bassà-Tine, a village at the entrance of the valley of Egaremont, two leagues from Cairo, in Suez, at Karnak and Luxor, near the ancient Thebes, on the

right side of the Nile opposite Hermontis, at Esneh, Edfou, Daraoueh, and at Assouan: it is cultivated in various other places, as Italy, Spain, &c.

The plant is from one to two feet high, of a pale or glaucous green colour; its leaves are petiolated, composed of about six pair of opposite leaflets, and furnished with stipules: the petioles are without glands; the leaflets are unequal, obtuse, elliptical, obovate, or obcordate, and mucronate (that is, are abruptly terminated by a short point). The flowers are disposed in racemes. The fruit (commonly termed a follicle) is a membranous, flat, and curved legume, of a blackish colour, with small projecting crests along the middle of each valve. The seeds are from six to eight in each legume.

Hayne makes another kind of blunt-leaved senna, under the name of *C. obtusata*: it is characterised by the more remote obovate, truncated, emarginate leaflets. I think, with Martius, that these are merely older leaflets of the *C. obovata*. I must refer to Hayne or Nees Von Essenbeck's plates for drawings of both plants.

2. *Cassia acutifolia* (Delile).—This shrub is not found so far northward as the *C. obovata*. Proceeding up the Nile, we first meet with it in the environs of Philæ, near Assouan, but it is principally found in the valley of Bicharié, about twelve or fifteen days' journey beyond Assouan, and, therefore, is essentially a native of Nubia. Its height is from two to five feet; its stems short and ligneous; the petioles are without glands: the leaves consist of from five to six pair of unequal, lanceolate leaflets, of from twelve to fifteen lines long, and from three to six broad. The legume is from eighteen lines to two inches long, and from nine to twelve lines broad, very slightly, if at all curved, smooth, and without any of those projecting crests observed in the last-mentioned species: its usual colour is green towards the edges, and black towards the centre. The seeds are from six to nine in each legume.

Decandolle has united this species with the *C. lanceolata* of Forskäl, which grows about Surdud, Mor, and Abuarish, in Arabia. I have before mentioned that Delile considers them to be distinct; and he particularly refers to the presence of a gland on the petiole of *C. lanceolata* (Forsk.) as distinguishing the latter species from his *C. acutifolia*.

Is this species the same as that now cultivated in India, from which our East Indian senna is obtained, and which was grown from the seed of *sunu-mukkee*, and has been figured by Dr. Royle under the name of *C. lanceolata* of Forskäl? If not identical, it is closely allied to it. Dr. Royle says, that though it is an annual, it

may with care be made to live throughout the year, and thus assume a suffruticose habit. "The leaves," he adds, "are truly lanceolate, but differ in length in the lower and upper parts of the stem; but the sessile glands, on which so much stress has been laid, do not appear to be a constant character, as I have very seldom seen them." Query—Is the species depicted by Dr. Royle the *C. lanceolata* of Forskäl? The *C. elongata* of Lemaire Lisancourt is the same species as Dr. Royle's plant.

3. *Cassia lanceolata* (Nectoux).—This is the *C. ovata* of Merat,—the *C. Æthiopica* of Guibourt. It grows in Nubia, in Fezzan, to the south of Tripoli, and probably in Æthiopia. By many botanists it is considered to be identical with the *C. acutifolia* of Delile; and it must be admitted they are very closely allied. But if we compare the figures and description given by Nectoux and Delile, we shall find they differ in several respects: *C. lanceolata* of Nectoux has petioles provided with a gland at their base, and another between each pair of leaflets; there are from three to five pairs of leaflets to each leaf: these leaflets are smaller, less elongated, and less acute than the last-mentioned species, being only from seven to nine lines long, and from three to four broad; their shape is oval-lanceolate. The legumes are flat, smooth, from eleven to fifteen lines long, of a light or fawn colour, and contain only from three to five seeds. If not a distinct species, it is a marked variety.

Commerce. — Physical properties and varieties of senna. — In commerce we meet with several varieties of senna: the following are the principal:—

1. *Alexandrian senna*.—The senna which in this country is denominated Alexandrian, has received its name from its place

of shipment. It is sometimes termed *Séné de la Palthe*, or *Tribute senna*, because it was obliged to be sold to the Turkish government, who resold it to Europeans.

Gathering. — The acute-leaved senna grows wild in Upper Egypt and Nubia, between the Nile and the Red Sea, particularly in the valley of Bicharié. It is collected by the Arabs of the tribe of Abaddeh (camel breeders for the market at Esneh). They make two crops annually,—the most productive one is that after the rains in August and September, —each individual having the privilege of collecting the produce of his own district. When cut, the plants are spread out and dried in the sun.

Entrepôts. — The first depôt, or entrepôt, for senna, is at Assouan, which receives all that is gathered in the neighbourhood. At Esneh there is another depôt which receives the senna from Abyssinia, Nubia, and Sennaar, from whence it arrives by the caravans which bring negroes to Egypt. Between Assouan and Esneh is Daraö, also an entrepôt for senna. The great entrepôt is at Bulak, the port of Cairo, whose paltier, or tax collector, is an Italian, named Rosetti. At Bulak the senna arrives principally by the Nile from Assouan, but some also comes from Cosseir, a port of Egypt, (by way of the Red Sea and Suez) by the vessels trading in these parts, and which carry merchandise from India, and coffee from Yemen to Cosseir, and Suez: this, however, is a more expensive mode of conveyance, and is not, therefore, so frequently employed. Lastly, some senna is also brought to Bulak by the caravans coming from Mount Sinai. The relative quantities of the leaves constituting the Alexandrian senna of commerce brought from these different places, is said to be as follows:—

1. From Assouan	{ 7000 to 8000 quintals of acute-leaved senna.
	{ 500 to 600 ————— obovate senna.
	{ 2000 to 2400 ————— argel leaves.
2. From Esneh	{ 2000 quintals of Æthiopic senna.
	{ 800 ————— obtuse senna.
3. From Suez, and from Mount Sinai	{ 1200 to 1500 quintals of obovate senna.
Making in all, about from 13500 to 15300 quintals.	

From Bulak the senna is sent to Alexandria, from which port it is shipped for Europe.

Mixture of the leaves. — The mixture of blunt with acute-leaved senna takes place at the entrepôts. Nectoux mentions those of Kénéh, Esneh, Daraoueh, and Assouan, where it is effected. Rouillère says that at Boulak 500 parts of acute leaves are mixed with 300 of obtuse leaves, and 200 of argol.

Description. — Alexandrian senna has a

greyish green colour, an odour something analogous to that of green tea, and a viscid taste. It presents a broken appearance, and on examination is found to consist of several kinds of leaves, of broken stalks, of petioles, fruits, flowers, &c. The leaves are of four kinds — namely, the acute-leaved *Cassia*, the obovate *Cassia*, the Argel, and the *Tephrosia Apollinea*. The fruits are those of *Cassia*, of Argel, and *Tephrosia Apollinea*: the flowers are those of the two first genera.

The leaflets of the two species of *Cassia* are readily distinguished from those of the other genera just named, by the irregularity at their base; that is, the two sides of each leaflets are of unequal size or length.



FIG. 168.—*Cassia* leaflets of *Alexandrian senna*.

a. The acute. b. The obtuse leaflets.

The Argel (*Cyanchum oleæfolium* of Nectoux, and *C. Argel* of Delile) is a plant about two or three feet high, growing in Egypt and Nubia, belonging to *Pentandria*, *Digynia* of the Linnean arrangement, and *Asclepiadaceæ* in the natural classification. Its leaves are distinguished from the cassia leaflets by the regularity of the leaves at the base, the absence of lateral nerves, and by their thicker and more coriaceous appearance.



FIG. 169.—Leaf of *Cynanchum Argel*.

The fruit (also found in *Alexandrian senna*) is an oval follicle, with an elongated conical point, containing several seeds, with a pappus.

The *Tephrosia Apollinea* (or *Galega Apollinea*) is a leguminous plant belonging to the class *Diadelphia*, order *Decandria*, in the Linnean arrangement. It is a native of Egypt. The leaflets are obovato-oblong, and emarginate. The legumes, as met with in the senna of commerce, are from one to two inches long, but not more than two lines broad; they are sword-shaped, and contain six or seven seeds. The leaflets and fruit are not found in all samples of *Alexandrian senna*.



FIG. 170.—Leaflet of *Tephrosia Apollinea*.

2. *Tripoli senna*.—The senna known in commerce by this name has at first view very much the appearance of *Alexandrian senna*; but it is usually (Guibourt and some other pharmacologists say always) composed of an acute-leaved senna, unmixed with either an obtuse-leaved senna, or with argel leaves. I have a sample, however, of senna, given me by a drug broker, which I was assured came from Tripoli, and which contains both these leaves.

The acute leaflets composing Tripoli senna are always more broken than those of *Alexandrian senna*: moreover, they are smaller, less acute, thinner, greener, and of a less herbaceous odour; and the legumes are smaller and paler. Hence it has been supposed by Merat, as well as by Guibourt, that these leaflets are obtained from a species of cassia different to that yielding the acute-leaved senna; and they have, therefore, termed it *Cassia ovata*, or *Cassia æthiopica*: the drawing of the leaflets and legumes of the Nubian senna, given by Nectoux, and which he calls *L. lanceolata*, or *Séné de Nubie*, agree precisely with the leaflets and legumes of Tripoli senna.

According to the information given by M. Melchio Autran to M. Poutet, of Marseilles, this senna is carried to Tripoli by caravans which come from Fezzan.

3. *Aleppo, or Syriun senna*.—It consists of large leaflets of a blunt species of senna, probably *Cassia obovata*. Colladon describes Aleppo senna as being similar to the *Alexandrian*, except that the leaflets are narrower. I have never seen Aleppo senna corresponding with this description.

4. *Senegal senna*.—Some years since the French *ministre de la marine* sent a small bale of senna, the produce of the French colony, Senegal, to M. Henry, for examination, and from Professor Guibourt I have received a sample of it. It is a blunt-leaved senna, having a rougher and more glaucous appearance than the ordinary obovate senna.

5. *Tunis senna*.—I have received a sample of senna from a drug-broker, who told me it came from Tunis. It agrees precisely with the characters usually assigned to Tripoli senna.

6. *Smyrna senna*.—I have a senna from Smyrna, which is very analogous to Tripoli senna: it consists merely of acute leaflets, some of which, however, are similar to the acute leaflets of *Alexandrian senna*.

7. *East Indian senna*.—Under this name we meet with two varieties of senna, as follows:—

(a.) *Tinnevelly senna*.—This senna is the produce of Tinnevelly, where it is cultivated by Mr. G. Hughes, and hence it is frequently termed *Hughes's Tinnevelly senna*.

I have heard it also called *Norfolk senna*, and on inquiry, was told this term Norfolk was applied to it, because it was first imported in a vessel of that name. It is a very fine unmixed senna, which is extensively employed, and fetches a high price. It consists of large, thin, unbroken leaflets, from one to two inches or more long, and sometimes half an inch broad at their widest part.

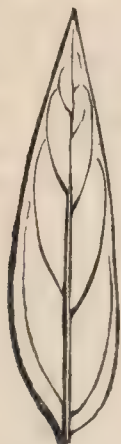


FIG. 171.—Leaflet of East Indian Senna.

Guibourt says, when exposed to a damp atmosphere, they are very apt to change colour, and to become yellow, or even blackish.

I have never met any legumes mixed with it.

(b.) *Mecca senna*.—This is frequently termed in commerce *second*, or *inferior East Indian senna*. It is the *séné de la pique*, or *pike senna*, of the French. It is brought to us from India, but is probably chiefly, if not wholly, the produce of Arabia. It is identical with *séné moka* which I received from Professor Guibourt; and on showing a sample of it to Dr. Royle, he immediately recognised it as the *sunu-mukkee* of the Indian bazaars, from the seeds of which he raised the plants, a drawing of one of which is given in his valuable work on the Botany of the Himalayas. In this work, Dr. Royle tells us that this senna is received in India from Egypt, by means of the ports of Surat and Bombay, those of the peninsula of India, as well as by Calcutta. A considerable portion, he adds, is re-exported to Europe, together with some probably cultivated in the country. From its cheapness he was led to suspect it must be cultivated in India, and on inquiry he was informed that it was so somewhere in the Agra and Muttra district, but was never able to prove the fact. The plants raised by Dr. Royle at Saharunpore correspond in every respect with the Tinnevely senna, but the leaflets are smaller, as might be expected from the more northern latitude of Saharunpore.

Mecca senna occurs in long narrow leaflets, of from one inch to an inch and a half long, narrower than those of Tinnevely senna, and of a yellowish colour; some of the leaflets being brownish, or even blackish. This change of colour is probably the result of the action of a moist atmosphere. Legumes are occasionally mixed with it: they are from $1\frac{1}{2}$ to 3 inches long, and from 7 to 8 lines broad; slightly curved, greenish in their circumference, blackish in their centre, with a smooth surface.

Adulteration.—Senna is, I believe, never adulterated in this country. It is said, however, that occasionally the leaflets of *Colutea arborescens* are mixed with it. They may be readily distinguished by their form, which is elliptical, regular, and retuse, (that is, the end round, with a depression in the centre).

A more serious adulteration has been sometimes practised on the continent. I allude now to the mixture of the leaves of the *Coriaria myrtifolia* with those of senna. This plant is a native of the south of Europe, and belongs to the family *Coriaceæ* in the natural classification, to class *Diæcia*, order *Decandria*, in the Linnean arrangement. The leaves as found in senna are usually in a broken state, but may be readily recognized, as well by their chemical as their physical characters. Their colour is greyish green, with a bluish tinge: they are three-nerved, the midrib being strongly marked. The two lateral nerves disappear towards the summit of the leaves.



FIG. 172.—Leaf of *Coriaria Myrtifolia*.

Chemically these leaves are distinguished from senna by the white precipitate produced by gelatine, corrosive sublimate, or tartar emetic, in an infusion of the leaves, and by the blue precipitate occasioned by the sulphate of iron.

Chemistry of senna.—Three analyses of the senna leaves have been made—namely, one by Bouillon La Grange, a second by Braconnot, and a third and more recent one by Lassaigne and Feneulle. The following are the constituents of acute-leaved senna, according to Braconnot:—

Bitter matter of senna.....	53·7
Red-brown gum	31·9
Matter similar to animal mucus?	
precipitable by acids	6·2
Acetate lime	8·7
Malate (or some other vegeta-}	
ble salt) of lime	3·7
Acetate of potash	
Chloride of sodium.....	traces.
<hr/>	
104·2	

According to Lassaigne and Feneulle, the following are the constituents of acute-leaved senna:—

1. Chlorophylle.
2. Fatty oil.
3. A small quantity of volatile oil.
4. Albumen.
5. A purgative principle (*cathartin*).
6. Yellow colouring principle.
7. Mucus.
8. Malic acid.
9. Malate and tartrate of lime.
10. Acetate of potash.
11. Mineral salts.

I propose to examine individually some of these constituents.

1. *Odorous principle of senna: volatile oil of senna.*—When senna leaves are distilled with pure water, a milky liquid is procured, which has the nauseous odour of senna. Schwilgue remarks, that although the odour of senna is sufficient to purge some individuals, yet that the distilled water of senna is only a slight purgative. The milkiness and odour depend on the presence of a volatile oil. One hundred parts of senna leaves yielded Cartheuser nearly 1·5 of an unctuous volatile oil, possessing a very nauseous odour and taste. Colladon, senior, however, only got a slight pellicle by the distillation of three pounds of senna.

2. *Purgative principle of senna: senna bitter of some authors: the Cathartin* (from *καθαίρω*, *I purge*) of Lassaigne and Feneulle. — This is an incrustallizable, reddish-yellow substance, of a peculiar odour, and a bitter nauseous taste. It is soluble in every proportion in water and alcohol, but is insoluble in æther. It attracts moisture from the air. Its aqueous solution precipitates the infusion of galls and subacetate of lead; becomes deeper coloured by the persulphate of iron and by alkalis; is decolourized by chlorine, and is not precipitated by iodine, acetate of lead, gelatine, or tartar emetic. In small quantities it purges and excites colics. Feneulle swallowed three grains of cathartin, procured from the legumes of senna; almost immediately it caused nausea, and an hour afterwards colic and several stools.

It appears to consist of carbon, hydrogen, and oxygen only.

Peschier and Jacquemin state they found cathartin in other vegetables — namely, in *Cytisus alpinus*, *Anagyris foetida*, and *Coronilla varia*. That these plants contain principles analogous to cathartin cannot be doubted, but we ought not to assert that they contain principles identical with it, since we are not precisely acquainted with its characteristic properties. The term *Cytisine* has been applied to the active principle of *Cytisus alpinus* and *C. alburnum*.

By boiling senna in water—by the exposure of infusion of senna to the air, as well as by the action of the mineral acids and of chlorine on the infusion—a precipitate is procured. Bouillon La Grange regarded this as a species of resin, formed by the union of oxygen with a peculiar kind of extractive found in senna. This extractive, he says, is inert, but becomes active when converted into resin; and hence the cold infusion, according to this chemist, causes colic but rarely.

The analysis of Lassaigne and Feneulle takes no notice of the principle in senna which produces the precipitates by the above-mentioned oxidizing agents.

3. *Colouring matters of senna.*—The colouring matters of senna are of several kinds. *Cathartin* is one, and *Chlorophylle* is another. The latter is readily extractable from senna by æther, which does not affect the cathartin. There is also a third colouring matter, which Lassaigne and Feneulle term the *yellow colouring principle*. It precipitates the acetate and subacetate of lead, and, with a solution of alum and carbonate of soda, forms an ochre-coloured lake: it contains nitrogen.

4. *Free acid of senna.*—An infusion of senna reddens litmus, showing the presence of a free acid; probably the *malic acid*.

5. *Other organic principles.*—The fatty oil, albumen, and mucus of senna, are found in small quantities only, and do not require individual examination.

6. *Salts.*—In the ashes of senna leaves are found carbonate and sulphate of potash, chloride of potassium, subphosphate, carbonate, and traces of the sulphate of lime, and silicic acid. In an infusion of senna, the presence of the sulphate may be detected by a barytic salt; the presence of a chloride is recognized by nitrate of silver, while oxalate of ammonia detects the lime. Lassaigne and Feneulle failed in recognizing a magnesian salt announced by Bouillon La Grange.

Composition of the legumes.—The following are the constituents of the legumes of *Cassia acutifolia*, according to Feneulle:—

Cathartin.
 Yellow colouring matter.
 Albumen (a small quantity).
 Gum.
 Fatty oil.
 Volatile oil.
 Malic acid.
 Malates of potash and lime.
 Mineral salts.
 Silicic acid.
 Lignin.

Physiological effects of senna. (a.) On animals generally.—Senna has not been tried extensively on animals, but on those to whom it has been exhibited it has appeared to act as on man. Thus, given to horses, in doses of five or six ounces, it purges freely, but, on account of the largeness of the dose required to act on the bowels, it is seldom employed by veterinarians, except in combination with other cathartics. Courten injected an aqueous decoction of two drachms of senna into the veins of a strong dog. In three hours the respiration was quicker; the abdominal muscles, the diaphragm, the stomach and bowels, were thrown into violent movements. Lastly, he vomited much bile, and appeared to be very weak: soon afterwards, vomiting again occurred, and within one hour and a half it took place four times. For three days he appeared dull, and had no inclination to eat.

(b.) On man.—Regnandot injected half a spoonful of weak luke-warm infusion of senna into the left median vein of a young man affected with an herpetic eruption. The only effect produced was a slight temporary headache. Some days afterwards a spoonful was injected: in half an hour violent shivering and vomiting came on, which were followed by heat and purging. The febrile symptoms continued for several hours.

Taken by the stomach senna is one of our most frequently employed, and surest purgatives. Accompanying the purgative effect we have nausea, occasionally vomiting, a sensation of heat in the abdominal region, griping pains, and flatulence. The stools are more liquid and yellower than usual; from which we may infer that senna promotes the secretions of the gastro-intestinal mucous membrane, and of the liver, and perhaps of the pancreas also. During the stage of nausea the pulse is usually depressed, but afterwards it is somewhat excited. Schwilgue says in small doses it purges without griping. Senna may be regarded as a stimulant to the abdominal and pelvic vessels, and thereby having a tendency to promote the hæmorrhoidal and menstrual discharge.

Senna is a tolerably safe purgative. It is employed for children and for elderly per-

sons; and I have known it used frequently after delivery and operations about the abdomen or pelvis, as after hernia and lithotomy,—and rarely with any unpleasant effects.

Comparison of senna with other purgatives.—Senna is one of the mildest of the drastic purgatives. In its operation it does not appear to be sufficiently irritant to set up dangerous inflammation of the alimentary canal; and therefore, unlike scammony, gamboge, jalap, and most other drastics, it does not rank among poisons, even when given in large doses. It is distinguished from the saline purgatives by its stronger and more irritant operation, by the heat, gripings, and increased frequency of pulse, which attend its purgative action. From rhubarb it differs in being more powerful and irritant in its operation, in being nearly or quite devoid of any tonic operation. It acts more speedily and powerfully than aloes, and in a less marked manner on the large intestines. According to Vogt, in a pharmacological classification, senna ought to be placed between jalap and aloes.

Comparison of leaflets, petioles, and legumes.—The griping of senna has been ascribed to the petioles and stalks; but without foundation, according to both Bergius and Schwilgue. "I have," says the latter author, "many times administered to the same person the leaves and petioles alternately, without perceiving any difference in their effects." The operation of the legumes is milder than that of the leaflets; according to Matthioli they are as powerful as the leaves, if gathered before they are fully ripe.

Comparison of senna and argel leaves.—The Argel plant (*Cynanchum oleæfolium*) belongs to the family Asclepiadaceæ; and hence we might expect its leaves would possess a more acrid operation than the senna leaflets. That they are purgative is well known; but their effects, as compared with those of senna, have not been very satisfactorily determined. According to Dr. Paget (as quoted by Soubeiran), they are more acrid than senna.

Comparison of the different kinds of senna leaves.—East Indian senna is nearly, if not quite, as active as the Alexandrian. Blunt-leaved (*C. obovata*) senna is less active than the acute-leaved (*C. acutifolia*).

Modus operandi.—The active principle of senna apparently becomes absorbed, since the infusion of senna given to the nurse affects also the suckling infant. The purgative effect of senna does not appear to be wholly the result of the local action of this drug on the intestines, since purging is produced by the injection of the infusion into the veins.

Uses.—The objections to the use of senna are the large dose required, the nauseous

and disgusting flavour, the tendency to gripe, and the irritant and stimulant operation. Thus in inflammation, or great irritation, of the mucous membrane of the bowels, the irritant action of senna makes it an objectionable purgative; while its tendency to increase the frequency of the pulse renders it less fit for exhibition in febrile disorder than the saline purgatives. To cover the unpleasant flavour, Dr. Paris recommends bohea tea. Aromatics and carminatives (especially coriander or ginger), are frequently added to it, to prevent or diminish its griping qualities, as well as to improve its flavour.

Senna is well adapted for those cases which require an active and certain purgative, with a moderate stimulus, to the abdominal and pelvic viscera. Thus in constipation and inactivity of the alimentary canal, requiring the continued or frequent use of purgatives, in worms, in determinations of blood to the head, and many other cases which readily suggest themselves, senna answers very well. The circumstances contra-indicating its use are, an inflammatory condition of the alimentary canal, a tendency to hæmorrhoids or menorrhagia, threatening abortion, prolapsus of the uterus or rectum, &c.

Administration.—Senna may be given in substance, in doses of from half a drachm to one or two drachms. There are, however, two objections to its use; the bulk of the powder necessary for a dose, and the uncertainty of its operation, arising from its liability to decompose by keeping. The *confection of senna* contains senna in substance, mixed with the pulps of tamarinds, cassia, and prunes, powdered coriander, sugar, and the decoction of figs and liquorice. It is commonly termed *lenitive electuary*; and, when properly prepared, is a pleasant, effectual, and mild purgative, and is not unfrequently employed by pregnant women, and by persons afflicted with hæmorrhoids, or diseases of the rectum. A spurious article is sold in the shops, in which jalap is partially or wholly substituted for senna and cassia pulp. Gray's Supplement to the Pharmacopœia contains no less than eight methods of manufacturing this article.

The most common preparation of senna is the *compound infusion*, prepared, according to the directions of the London College, by digesting fifteen drachms of senna, and four scruples of ginger, in twenty ounces of boiling distilled water. Its dose is from two to four ounces. Commonly, however, it is given in combination with some saline purgative (as the sulphate of magnesia or of soda, or the tartrate of potash), with manna, and frequently with tincture of senna. A composition of this kind is known by the name of the *black*

draught. Infusion of senna, with chloride of sodium or sulphate of magnesia, is frequently employed as an enema.

The *compound mixture of gentian* of the Pharmacopœia, is a mixture of the infusions of gentian and senna with tincture of cardamoms.

The *syrup of senna* contains fennel and manna, and is adapted for children; its dose being three or four drachms.

The *compound tincture of senna*—the old *elixir salutis*—contains, besides senna and proof spirit, carraways, cardamoms, and raisins. It is carminative, cordial, stomachic, and purgative, and is usually employed as an adjunct to the infusion, in doses of two or three drachms. Given alone as a purgative, it must be in large doses, as an ounce. It is useful in costiveness attended with flatulence.

Cassia fistula.

History.—The earliest writers in whose works we find the fruit of cassia fistula mentioned are the Arabians, Mesue, Serapion, and Avicenna. The first Greek writer who notices it is Actuarius, who terms it *κασσία μελαινα*: some, however, have suspected, but I think without sufficient reason, that the *καρπὸς ἑλλοβος* of Theophrastus, which this naturalist says was also called *Αἰγυπτιον σῦκον*, was the cassia fistula.

Botanical history.—On account of the remarkable characters of the fruit, some botanists have separated this plant from the genus *Cassia*. Thus Persoon calls it *Cathartocarpus fistula*, and Willdenow, *Bactrylobium fistula*. I shall follow De-candolle, who refers it to one section of the *Cassia* genus, which he calls *Fistula*.

This tree is a native of the East Indies, and probably also of Egypt. It is now naturalized in the West Indies. Its height is from thirty to forty feet, and its general appearance is somewhat similar to the walnut tree. The leaves are pinnate and alternate: they consist of from four to six or eight pair of ovate, subacuminate, smooth leaflets; the petioles are round, and without glands; the stipules are minute. The flowers are large, yellow, and odorous: they are arranged in long loose racemes. The calyx is of five nearly equal sepals; the corolla is of five oval unequal petals. The stamina are ten in number: three of these are longer than the corolla,—the other seven are short, clavate, with pores at the small end. The pistillum consists of a pedicelled ovary, a short style, and a smooth stigma. The fruit is a cylindrical ligneous pod or legume, from one to two feet long, and seldom exceeding an inch in diameter; externally it is of a blackish brown colour. Three longitudinal bands or seams are ob-

served extending from one end to the other: two of these, by their contiguity, appear to form a single band,—the third is on the opposite side of the legume. Internally the pods are divided into numerous cells by thin transverse partitions or phragmata; these are formed by the distention of the placenta, and are called spurious dissepiments. In each cell is one seed, with a soft blackish pulp, which appears to be a secretion of the endocarp or inner coat of the pod.

A small variety of cassia pods is brought from America. It constitutes the *Petite Casse d'Amérique* of Guibourt. The pods are from a foot to eighteen inches long, and about six lines in diameter. The pulp is reddish brown, of an acerb, astringent sweet taste. The pericarp is thinner than the ordinary cassia, and the pods pointed at the extremities; whereas the ordinary cassia fistula pods are rounded.

Extraction of the pulp.—In the Pharmacopœia the pulp is ordered to be prepared

by pouring boiling water on the bruised pods, that the pulp may be washed out: press this, first through a coarse sieve, afterwards through a hair one; then evaporate the water in a water bath until the pulp acquires a proper consistence.

Those pods yield the most pulp which are heavy, and do not rattle when shaken. Vauquelin gives the following as the relative proportions of pericarp, pulp, and seeds:—

	Oz.	Drachs.
Pericarp	6	6
Pulp	7	1
Seeds	2	1
	16	0

Properties of the pulp.—The pulp is of a reddish-black colour, and of a sweetish taste. By exposure to the air it becomes acid, in consequence of undergoing the acetous fermentation. It has been analyzed by M. Vauquelin, and also by M. Henry. The following are the constituents, according to the latter chemist:—

Extract of Cassia.

	Common, or African.	American.
Sugar	12·20	13·85
Gum	1·35	0·52
Matter possessing many properties of } tanning substances	2·65	0·78
Matter having some properties of gluten	traces.	traces.
Colouring matter soluble in æther	small quantity.	none.
Loss, principally owing to water	3·80	4·85
	20·00	20·00

Physiological effects —Cassia pulp in small doses is a mild laxative, in larger ones a purgative; but it is apt to occasion nausea, flatulence, and griping.

Uses.—It is rarely or never given alone; but the cases for which it is well adapted are febrile and inflammatory affections. On account of its pleasant taste it would be a convenient purgative for children. The dose of it as a laxative, for an adult, is one or two drachms; as a purgative, one or two ounces.

The *confection of cassia* of the Pharmacopœia contains, besides cassia pulp, manna, tamarind pulp, and syrup of roses. It is given as a purgative in doses of two to six or eight drachms. The *confection of senna* contains cassia pulp as one of its constituents. These are all the preparations into which this pulp enters.

Cassia brasiliana.

The pods of this species are somewhat curved, like a sword: their length is from eighteen inches to two feet long, and their diameter from one to three inches. They are slightly compressed laterally, are ligneous and rough. Their sutures are very prominent: one of them consists of two ridges; the other of one ridge. The pulp is bitter and nauseous, and its action is analogous to that of the cassia fistula. This species of cassia pods is rarely met with, and is, I believe, never employed in Europe, but it has been used in America as a purgative.

REMARKS
ON
THE TREATMENT OF HYDRO-
CEPHALUS ACUTUS.

BY DR. MAYO.

THE subject of medicine primarily divides itself into two heads—the history and the treatment of disease. Though blended together in the practice of the medical art, these topics maintain their speculative difference; and it is interesting to observe the distinct habits of thought to which they lead.

The facts which our inquiries into the treatment of disease, or the operation of medicinal agents, supply us with, though of extreme importance, are few in number: the explanation of these facts is often as gratuitous as the laboratory in which they are occurring is dark and obscure. Some general principles the mind will form on this subject; for the giving a reason implies the formation of a principle, but these will often be, in the strictest sense of the term, theoretical; as possessing no other proof of their soundness, than their suitableness to the phenomena classed under them may afford. In many cases, the curative effects of remedies are facts which we must admit, without being able to assign any reason for the result obtained. Such is the case with some specific remedies.

The history of disease, on the other hand, supplies us with a large series of definite and ascertained facts, which can be arranged under general principles of corresponding accuracy. It thus both gratifies and rewards the honest pride of scientific research. But while symptoms at one time, and the corresponding phenomena of morbid anatomy at another, are furnishing the labours of the pathologist with definite results, he is perhaps disposed to turn with some disgust from the vague theories on which the *modus operandi* of remedies is often based, and almost to treat the facts of this important subject with some indifference on account of this vagueness.

But while honest and active minds, in proportion as they are honest and active, are somewhat tempted into the researches of pathology rather than the other division of medicine, a strong inducement is given to minds of an opposite description to cultivate, or at

least to put forward views based upon the treatment, rather than the history, of complaints. The vagueness of the former subject suits the genius of quackery far better than the precision of the latter; and I believe that this remark will be found curiously true in regard to the various clouds of irregular practitioners which have at different periods hung on the outskirts of the medical profession. They will generally appear to have rested their claims to practice, not so much on their knowledge of the symptoms of disease, as on their acquaintance with the force and agency of remedies.

The most remarkable fraternities of this kind in the present day, have been the school of the late Mr. St. John Long, the Morisons, the Animal Magnetisers, and the Homœopathists. In regard to the three first of these sects, the remark which I have made holds good without any reservation. Dr. Hahnemann, the founder of the homœopathic doctrine, has, it is true, one axiom which seems to imply pathological research—namely, that it is the essence of disease to be cured by such means as would produce similar disease in healthy persons. Of this axiom nothing more need be said than that its basis is a truism, and that the assumption founded upon that truism, to which it owes its paradoxical character, is erroneous. Its basis is the trite and obvious fact, that in the cure of disease a new action is set up. The superadded assumption that this new action must be similar in kind to the one which has to be removed, is absolutely gratuitous. Does blood-letting in pneumonia set up an action similar in kind to pneumonia? Would it produce that disease in a healthy person? or does Dr. Hahnemann affirm that blood-letting does not cure pneumonia? But this class of practitioners might safely abandon their theory of disease. Their infinitesimal doses constitute their attraction with the public.

It is, indeed, not merely the facility with which therapeutical views are concocted which leads to their adoption by such practitioners as I have mentioned. It must be admitted that these views have also a very captivating influence on the public mind.

A statement of pathological phenomena is plainly unintelligible to the

majority of unprofessional persons. But those very persons who would decline any such assent as implies an exercise of the judgment, to a medical statement on the history of disease, will readily place as much confidence in an assertion that a remedy had been discovered for it, as if that assertion had really appealed to their understanding.

Uninfluenced by those feelings through which the fears and wishes of mankind are made subservient to unprofessional gains, and equally avoiding, on the other hand, that intellectual bias which might dispose us to favour the more scientific department of the subject of medicine, at the expense of that which is at present more conjectural, it is our duty to prosecute these branches with equal ardor, as equally conducive to the interests of society.

With respect to that disease of which it is my present object to examine the treatment, its pathology has been described with the greatest skill, by the most able inquirers; and no one probably has exceeded, in accuracy, the account given of it by Dr. Whytt, in the year 1768.

Dr. Whytt's three stages of the disease:—the first characterized, in the course of its progress, by feverishness, depression of spirits, vomiting, intense headache, and aversion to light; the second, dating from the time at which the pulse, from being quick and regular, becomes slow and irregular — at which squinting or double vision occur, and drowsiness, with some delirium, is observable; the third stage, at which the pulse rises again to feverish quickness, and becomes regular; the patient becomes comatose; dilatation of the pupil occurs, laborious respiration, and death.

These three stages embrace the principal features of subsequent descriptions. It is to this description of acute hydrocephalus that Dr. Carmichael Smith adapts his valuable practical directions. The inflammation of the brain, described by Dr. John Clarke, in his excellent work on Diseases of Children, with which term he uses hydrocephalus as synonymous, is Dr. Whytt's disease; though probably the account is in no way borrowed from him, but from the living book of nature. Quin, Cheyne, and Underwood, present us with views fundamentally similar. Dr.

Golis divides the disease into four stages — that of turgescences, of local inflammation, of effusion, and of palsy; the first stage of Dr. Whytt being virtually divided by that author into two stages, and that delusive appearance of improvement being noticed by Golis which occurs frequently before the commencement of the last stage of each of these authors. These distinctions also pervade in substance the inimitable division of the disease presented by Dr. Abercrombie, with which I may fairly suppose most of my hearers to be acquainted, only observing, that his account of it is to be found in the four last of his five forms of inflammatory disease within the head,—the first form being the phrenitis of nosological writers, distinguished in his work by its acuteness, and its affecting the meninges, not the substance, of the brain.

My object at present is to identify the disease, before I proceed to its treatment, and not to enter upon the large subject of its history. One distinction I must, however, notice, as bearing with peculiar force on my subject. The disease may be primarily an abdominal affection, and secondarily cerebral, or *vice versâ*. It may break out at once with unequivocal head symptoms, or the first noticeable facts may be those of hepatic or intestinal disturbance. To the first of these forms may be referred Dr. Abercrombie's fifth variety. I have witnessed a case of this kind, beginning in a girl aged ten years, of a scrofulous constitution, with some vomiting, and intense pain in the head, which ceased, however, in a few days, unattended by the slightest derangement in the action of the bowels, unmarked as to the pulse, proceeding, after subsidence of the pain, with no other cognizable symptom than drowsiness, until after an apparent improvement; the profoundest coma suddenly came on, and ending in death within ten days from its commencement. Except the application of a few leeches and the giving a few doses of calomel, nothing was done for this case until the fatal coma had commenced. It had been considered neuralgic, — a view favoured by the pains in the head observing a strictly intermittent type.

That form of hydrocephalus which supervenes upon hepatic or intestinal disturbance, is well described by the

late Dr. Yeats, though perhaps he does not sufficiently recognize the existence of the other form.

I have thus contented myself with a brief sketch of the history of a disease, the treatment of which it is my object to consider in some of its most striking features, beginning with that important agent—the use of mercurials.

The following memoir, in the 6th volume of the Medical Observations and Inquiries, entitled “A successful Treatment of a supposed Hydrocephalus Internus, by Dr. Matthew Dobson, read November 17, 1777,” contains a very unpretending statement of the line of practice discovered by its author.

“On the 13th of February,” says Dr. Dobson, “I was called to the only son of Mr. C——, a gentleman of this town. The child was between three and four years old, had been indisposed about eight days, and had frequently complained of pain in the head and weariness, and pain in the limbs. Had been sick by fits, and sometimes vomited; was feverish, and could not bear the light.

“On examining the little patient, I found the pulse frequent and irregular, the head hot, the cheeks flushed, the pupils dilated, and a great deal of strabismus. There remained no doubt as to the nature of the disease, which had been fatal to three children of this family under my care.

“An emetic, some calomel powders, and an aperient, had been given, without affording any relief. I directed a pediluvium, and the emetic tartar in such doses as to excite nausea.

“14th.—The symptoms the same, with frequent startings, disturbed sleep, and tossing the head from side to side. A blister was applied between the shoulders, the pediluvium repeated, and the emetic tartar continued.

“15th.—Comatose, restless, and shrieking by fits; the pulse slower than in health, and the eyes insensible to the impression of strong light.

“As I had no hope of doing any thing effectual for the recovery of my patient, I paid my visits, prescribed and gave directions with a foreboding and heavy heart. Anxiously, however, considering the case in different points of view, and fully convinced that it was useless to pursue the usual line of prac-

tice, it occurred to me that mercurials, so far urged as to enter the course of the circulation and affect the salivary glands, might possibly reach the system of absorbents in the ventricles of the brain, and thus remove the extravasated fluid. The short duration of the disease, and the strength of the patient, were favourable to the trial of this method.

“The mercurial course was therefore commenced, urged on with caution and expedition. In forty-eight hours the breath began to be offensive, and the symptoms of the disease, so far as they could be distinguished, were somewhat abated. In forty-eight hours more ptyalism came on, and the disease was evidently declining.

“Between the 15th and 22d, this patient took 24 grains of calomel, and one drachm of the stronger mercurial ointment was daily rubbed into the legs and thighs.

“A moderate ptyalism continued for five or six days, and the disease was entirely removed.

“The strabismus, I observed, was the last symptom which disappeared.”

Taking Dr. Whytt's description of hydrocephalus as his pathological basis, and following the line of practice suggested by the above case, Dr. Carmichael Smith, in his treatise, published in 1814, unfolds the principle of mercurial treatment, as applied by himself.

“Ten grains of quicksilver,” he observes, “were rubbed down,” according to his direction, “with 20 or 30 grains of cordial confection or manna; to this five grains of the fresh squill were added; and this quantity, duly subdivided into small portions, was given in the course of every six or eight hours, when the child's stomach could bear it. The efficacy of this remedy he sometimes endeavoured to promote by giving other diuretics at the same time; but the stomach, he says, will seldom admit of this practice.”

On the above practice, assisted by counter-irritants, Dr. Carmichael Smith relies for the cure of the disease, as far as it can be effected by art. The headache, he says, “he has known to be mitigated by leeches.”

Turning to the invaluable Commentaries of Dr. John Clarke, we find this principle of treatment holding there a very different rank, in comparison with direct

depletion. He uses the terms hydrocephalus and inflammation of the brain in children as synonymous, and places his primary reliance upon the removal of blood. He attaches high value to the alterative use of mercury, but describes himself as never having employed it internally independent of friction. The mercurial which he recommends internally is calomel; and he authorizes the greatest boldness in its use.

In contemplating the views of Dr. Clarke and Dr. Carmichael Smith, it is impossible to avoid the conclusion, that the latter of these physicians saw the disease in its relations to the nervous or serous temperament, the former to the sanguine temperament, each somewhat to the exclusion of the opposite view,—unless we may suppose that the experience of the one was principally formed when the reigning epidemic state has been inflammatory, and that a different *temperies aeris* prevailed during the time, the researches of the other were conducted.

But the balance is perhaps better struck between the claims of mercury and of blood-letting, by Dr. Golis, than by either of the above eminent men. Mercury and the lancet are recommended by him as admirably co-operative. “Of all the medicines which have been highly prized in hydrocephalus, calomel,” he says, “is the most efficacious. In the turgescence and at the commencement of the inflammatory stage I may almost call it a specific; it excites, as it were, an intestinal ptyalism, and lessens, by the action which it excites in the alimentary canal, the orgasm of the head, wakens more activity in the ends of the serous vessels, by which absorption is increased, and, according to my experience, makes all other purgatives for the most part unnecessary.”

One evil, however, Dr. Golis associates with the use of calomel, which I have not noticed either in my own practice or in authors. “Many times,” he says, “I have observed, under large and continued doses of calomel the symptoms of hydrocephalus suddenly vanish, and fatal inflammation of the intestines take its place.”

With respect, on the other hand, to the removal of blood, “this measure,” he observes, “is applicable in the turgescence of the disease not only to plethoric children, without any distinction

of age, but to less plethoric persons, when it has been preceded by violent agitation of the brain, and when the reigning constitution of the atmosphere is inflammatory.”

In illustrating distinct principles of practice, it is useful to select those authors in whom such principles are most distinctly embodied. On this account, as well as for the extreme valuable-ness of all his writings, I proceed to the opinions of Dr. Abercrombie.

“Mercury,” he observes, “has been strongly recommended in that class of cases which terminate by hydrocephalus, but its reputation seems to stand upon very doubtful ground. In many cases, especially during the first or more active stage, the indiscriminate employment of mercury must be injurious.” Having proceeded to discuss the application of other remedies, he returns to the subject of mercury in the following terms:—

“When mercury was first employed as a remedy for hydrocephalus, it was given with a view to promote the absorption of the effused fluid, which was supposed to constitute the essence of the disease. It is now given to correct the biliary secretion, and the functions of the digestive organs, which, according to certain modern doctrines, hold an important place in almost every class of diseases. In affections of the brain, as in all other diseases, it is highly fit that these secretions should be attended to. But it is not thus that hydrocephalus is cured; and I confess the result of my own observation is, that when mercury is useful in affections of the brain, it is chiefly as a purgative.”

I am not aware on what hypothesis Dr. Abercrombie considers that the use of mercury must be injurious in many cases, especially during the first or more active stage, except on such as would equally, or yet more strongly, apply to the use of purgatives generally, to which, I may observe, he gives unqualified praise.

In cases of considerable action all these remedies require the removal of blood as co-operative with them; nay, they derive a large portion of their valuable influence from its conjoint or previous performance. Dr. Quin, who also values mercury no further than as a purgative in hydrocephalus, expresses a candid doubt, whether its failure in

his hands, in regard to its specific effects, may not have arisen from his neglecting the lancet. The passage last quoted from Dr. Abercrombie seems to imply his opinion, that mercury is now used in hydrocephalus merely for the regulation of the digestive organs, and not on the principles laid down by Smith, and recognized by Clarke and Golis. In this supposition I think the Doctor is mistaken.

Surveying the opinions of the eminent men to whose works I have alluded, on the use of mercury, we find Carmichael Smith depending upon it on account of its supposed effects on absorption, as the most important remedy in hydrocephalus. We find Dr. Clarke and Dr. Golis attaching much importance to it in all respects, but viewing it as co-operative with, and in some degree secondary to, the use of the lancet. We find Dr. Abercrombie distrusting its effects as productive of absorption, and allowing it to hold a place in his practice only as an aperient, and in this light viewing it with some unexplained dislike when used early in the disease. The opinion of the majority of present practitioners will, I believe, be found in favour of the views expressed by Clarke and Golis. It may, however, be doubted whether the use of mercury, with the recent squill recommended by Dr. Smith, has met with as many imitators as it deserves. It is a remedy often noticed in the posthumous writings of Dr. Parry, of Bath, as successful in this class of cases; and I have myself found it beneficial.

The above remarks have necessarily brought me into contact with the subject of venesection, and in some degree of purgatives, in relation to hydrocephalus. The lancet is, indeed, often the best purgative, when fulness of the vessels of the head restrains the action of the bowels. Of the writers whom I have quoted, none deny the value of aperients; Abercrombie, perhaps, gives the most decided suffrage in their favour. In regard to the relative value of blood-letting and catharsis, if the affection of the brain be primary, experience shews, according to the principle above laid down, the high importance of direct depletion; if secondary, and dependent on visceral obstruction, active catharsis is more obviously indicated. Golis speaks of jalap as a pecu-

liarily valuable aperient. Clarke assigns this kind of praise to saline purgatives. The latter are most obviously indicated where watery evacuations are required for the relief of cerebral oppression; the former where the removal of fæcal congestion is the immediate object. The remark of Golis, that calomel makes all other aperients for the most part useless, though put too forcibly, claims our utmost respect.

With respect to the active stage of the complaint at which these active remedies are allowable, precise suggestions are difficult. Abstraction of blood, and active purgation, seem limited to the first stage of Whytt, or what seem identical to that, the first and second stages of Golis. There appears, according to concurrent testimony, no limit to the alterative application of mercury, except that kind of improvement of symptoms which the case quoted from Dr. Dobson illustrates. Ptyalism, however, as Golis observes, seldom occurs in the complaint.

To one point we have abundantly concurrent testimony—namely, that the disease is essentially a fatal one; in other words, that the actions set up by nature for its resolution are destructive of life. Accordingly, if our art is unsuccessful, if measures applied in a given case seem even to produce evil, though we may regret our choice of remedies, still we cannot reproach ourselves on the ground that our patient might have recovered if left to himself.

The subject which next claims our attention is the use of counter-irritants. We have the authority of Dr. Quin for an assertion made by Cullen, that he had seen an instance of hydrocephalus cured by blisters. All writers, indeed, concur in praising their use, but in none have I seen sufficient pains taken to guard practitioners against their unseasonable use. Where antiphlogistic treatment is appropriate, blisters will often be worse than useless. This fact, recognised as it is in thoracic and abdominal inflammation, is yet more true in the disease before us. The following case illustrates this view. A young lady, aged 14, of a bilious temperament, and congestive habit, shewed symptoms of feverishness early one morning, and a slight erysipelatous blush on the forearm in the course of the day. In the evening, unwonted

sleepiness and oppression were observed in her. No complaint, however, was made of pain in the head. Being at some distance from medical advice, her father took it upon himself to apply a blister to the nape of the neck. Whilst this was drawing, the lethargic symptoms abated and disappeared, and their place was taken by extreme liveliness and quickness of manner, which lasted for some hours. In the course of the morning these symptoms subsided into the most profound coma, with stertorous breathing. Blood was then taken from the arm to a very great extent, with no relief to the coma, but great reduction to the patient's power. Late in the same evening, when I first saw this patient, she was sinking fast. She died in the night. This awful attack, in which blood-letting and blistering unfortunately changed places, must be classed under the head to which Dr. Golis gives the name waterstroke. Two brothers of this young lady have laboured under hydrocephalic symptoms.

Against this unsuccessful use of the Spanish fly may be set off the following valuable remarks of Dr. Merriman. "In about twelve cases of hydrocephalus," he says, "I have given the Tincture Lyttæ in doses of five to ten minims every four hours, and I think that in three cases the disease was decidedly arrested. In one case there was strabismus, and the child had been several times convulsed. The tincture was continued till it produced very severe strangury, from which moment the cerebral symptoms began to give way, and the child recovered. In the other two cases severe strangury was the symptom, which seemed to afford relief to the affection of the head."

The recommendation given by Dr. Carmichael Smith, of a caustic issue to be established at the bregma, deserves notice, from the high merit of the author. But this remedy, and also the ointment of tartarized antimony, are obviously more applicable to preventive than to curative treatment. There is another remedy, to which ample concurrent testimony is borne, as applicable to the early stages of the disease, with which an issue at the bregma would scarcely be consistent. I mean cold affusion to the scalp.

An improvement in the symptoms of hydrocephalus is generally found to involve an increase in the quantity of

urine. Still the use of diuretic remedies has been looked at with much distrust by the best authors. It is observed by Dr. Clarke, that "medicines of the diuretic class, always very uncertain in their operation, seemed to have less efficacy in these than in any other cases." The most apparent exception in their favour is the use of the recent squill, as above described. Dr. Quin, speaking of digitalis, which is the subject of a very careful induction in his *Treatise on Hydrocephalus*, makes the following remark:—"With every precaution of selection, preparation, and regulation of the dose, it is perfectly inefficient in a large majority of cases where its diuretic effects are wished for. But in some cases it is most singularly effectual, and generally where the patients are exceedingly exhausted."

It is not easy to estimate the value of digitalis in reference to the foregoing distinction. In well-conducted cases of hydrocephalus, by the time that the patient has arrived at the exhausted state other remedies will have been used, such as venesection, and mercury, and cathartics, which tend to increase the urinary secretion. The evidence, however, of Quin, of Golis, and of Cheyne, concurrent experience, and the analogy of other forms of effusion, authorize us to attach some importance to this remedy, particularly when combined with calomel or blue pill.

Dr. Golis, speaking of digitalis, attributes to it also the merit of palliating the last stage of incurable cases, and mitigating or preventing the convulsions by which it is often closed.

In our anxious search for remedies against diseases, which, after all the great majority of mankind never incur, we attach too little importance to such as may be appropriate to that inevitable combination of symptoms which characterise the dying state.

Other sedatives may palliate the latter stage; to the curable stages of this disease they are mostly inappropriate. Against opium we have the testimony of Clarke and Golis, and, I believe, of most other practitioners. I cannot, indeed, agree with Dr. Mills, in his able article in the *Transactions of the King and Queen's Hospital*, in thinking opium safe, even when assisted with calomel, in this disease: the cases, indeed, which he adduces, in which this combination appears, are unfavourable to his views.

I have thus endeavoured to collect the sense of our best medical authorities on the accredited treatment of hydrocephalus, with some reference to my own opinion. Had I extended my researches over a greater number of names, I should have embarrassed a subject on which it has been my object to afford data for practical inferences in a brief space.

Compared with the whole duration of the disease, the curable portion of it is very short, the mortuary portion very long. Hence it happens that the time for action has often elapsed before we are summoned; while, again, if we bring with us indeterminate opinions as to its treatment, the disease will have gained a victory before we have resolved upon the weapons with which it is to be encountered. With respect to the choice of these weapons, there is, no doubt, some difference of opinion. But the difference is such as may be expected to exist among honest men, who think for themselves. On the other hand, there is sufficient unity of principle to prove that their speculations have a scientific basis.

WHAT ARE THE PRACTICAL INDICATIONS OF THE PULSE IN DISEASE?

To the Editor of the Medical Gazette.

SIR,

I FEAR the accompanying remarks are too voluminous for the pages of the GAZETTE; but if you could afford them space, they may lead to the investigation of a subject upon which we have yet much to learn.

I have the honour to be, sir,

Your humble servant,

RICHARD BURKE, M.D.

3, Sackville-Street,
March 28, 1837.

The first and most important feature in the successful treatment of disease, is a correct diagnosis, without a clear and accurate perception of which we must be daily exposed to dangers, involving not only our own reputation, but the lives of our patients. Let us consider how far we are assisted in this by the pulse.

It has been remarked that the writings of the ancients afford the

clearest diagnostic signs. In this particular department, their superiority over the moderns is still apparent. With the exception of auscultation, the last and most splendid discovery in the science of medicine, there is little in modern physic which can be contrasted with the careful and cautious inductions of those close observers of disease. The wide and seductive field of pathological investigation has led us also too far from the careful study of diseased animal action, and fixed our attention too exclusively on its morbid effects. Doubtless morbid anatomy has added much to the sum of facts already known; but there is still a question, how far have we improved the treatment of disease by it?

The pulsations of the radial artery have long engaged the physician's attention, often with uncertain results. I have myself bestowed some time on its study, and regret that I have seldom derived from it the useful practical indications which I was led to expect. Let me not be understood as rejecting it *in toto*,—it is often of great assistance; but so is it, at other times, of little use.

It is curious to read the accounts of men describing the pulse at the wrist, in the same disease, and same stage, varying, often, as wide as the poles asunder. In pleurisy, many men will arrive at nearly the same result by feeling the pulse at the wrist; but we find one describing it as hard, another as stiff, a third as tense,—all conveying, in strict etymological meaning, different impressions: yet, strange to say, all agree in the indications of treatment. The ancients, especially Galen, and some of the moderns, have laboured zealously to prove that the pulse afforded the best means of ascertaining disease, and also of its prognosis. Solano, of Lucca, and Fouquier, of Paris, are amongst the moderns who have bestowed most attention to this subject. The elaborate descriptions which the two latter have given of the pulsations, and the indications flowing from them, are too minute to be ever practically useful. Even were all philosophically true, I doubt the possibility of our ordinary sensations ever being able fully to appreciate them. I have been occasionally puzzled with the conflicting statements of these writers, and frankly confess that I have been unable to distinguish those varieties in the beats of the pulse which they

describe. In this I console myself with the notion, that writers of this cast have refined too much, and that after all the pulse itself is not so very important as some would lead us to believe. That close and accurate observer of nature, Hippocrates, makes little or no mention of it; a thing which could hardly have escaped him, were it so important as some are inclined to believe. It is impossible to follow the directions which are laid down in books for feeling the pulse; and were it possible, it would ill repay the labour bestowed on it. We are directed by some to feel the pulse of both hands, because one may be diseased, and not fitted to impart the usual sensation; again, to place all the four fingers together over the artery. Our attention is again directed to place the left hand on the right hand of the patient, and the right hand on the left. It is also of some importance in what position the hand of the patient shall be placed, as tending much to facilitate the diagnosis. Travellers state, that the Chinese physicians can discover by the pulse, not only the disease, but the particular organ affected, and pronounce confidently, without consulting the patient, when and how it is to be cured. Fouquier has gone the length of discovering by the pulse the particular organ affected, and the exact state of it; whether it consist in a mere disposition to disease, or increase in the vital powers or action of the organ, independent of any positive lesion or disease. In this I frankly confess my inability to follow him, with any hope of adding to my practical knowledge.

Attention was first directed to the changes in the pulse consequent to the variations in the barometer and thermometer, I think, by Bryan Robinson. He stated, that the pulse is very slow in the morning, and up to midday; that it then becomes quicker; that from two to eight in the evening it sinks, and again rises; that a slight remission occurs during sleep, and that it again resumes its quickness until two in the morning, at which time it is at its height. Such observations as these are doubtless curious, but their application to disease is difficult. In one of the numbers of the Edinburgh Medical and Surgical Journal, there is an interesting paper, by Dr. Barclay, on the pulse. He made some experiments to ascertain the power of the system, as indicated at

the wrist by the pulsation, so as to determine when digestion was most likely to be easily completed. It appeared by his experiments, that the pulsations were quicker and stronger early in the morning, and sunk towards midday; a fact which inclined him to think that the digestive powers were stronger in the early part of the day, and consequently the fittest time for taking solid food.

In looking at the varieties of pulse which are laid down, one is almost tempted to question the veracity of those who state that they have distinctly marked each variation. I have counted not less than fifteen different kinds, from each and every of which distinct indications are to be derived for treatment. The question has been asked, is there a marked degree of frequency of pulse when fever commences, and the answer has generally been in conformity with Haller's view, that when the pulse exceeds 90 in a minute, it is febrile. But it has not been agreed that fever is solely characterized by quickness of pulse; indeed, we are daily meeting with cases of fever, where the quickness of pulse is by no means proportionate to the increase of fever, as is evident by the heat and parched thirst with which the patients are tormented. There are cases where it is not only not accelerated, but absolutely slower than natural; and cases are recorded where it did not exceed 25 pulsations in the minute. The general impression, however, is, that in fever there is an increase in the quickness of the pulse; but fever is so complicated, that we can seldom diagnose it by the pulse.

Writers on symptomatology have laid it down, that in convalescence, if the pulse retain its quickness, the recovery is doubtful; yet we have repeatedly seen instances where this quickness depended, not upon the existence of fever, but on general debility, and which was easily calmed by restoring the patient's strength. In a case of this kind I need not dwell on the importance of this distinction; that it be correctly made is of the last importance, for on it rests the only chance of the patient. Here an exclusive attention to the pulse would inevitably lead to fatal results.

We have long endeavoured to diagnose disease of the heart by the pulse; but the errors to which it unavoidably led has happily forced us into another

track, in which we have succeeded so far, as to leave little on this head to be desired.

It has been laid down, that an intermittent pulse indicates an organic disease of the heart, though we have repeated instances where aneurism of the heart has existed without any such effect; but we also know that it is common to find the pulse to intermit in the neuroses, and it is often found to accompany worms in the intestines. Morgagni relates the case of a physician, who was alarmed by an intermitting pulse. The cure proposed was to endeavour to turn his attention altogether to some other subject, and forget, if possible, that he had a heart. The prescription was complied with, and the cure completed.

In pericarditis the pulse affords but little information. Andral relates cases where the radial pulse was frequent, irregular, and remarkably hard, whilst the heart was but feebly heard by the stethoscope, and when the ear applied over the region of the heart could hear only a confused murmur. The pulse was found to differ materially in cases where the heart presented the same morbid appearances. The varieties of the pulse in diseases of the heart are so many, that little importance is to be attached to it in the diagnosis of those diseases. Neither must we conclude from the pulse retaining its physiological characters, that the heart is free from disease. We find it strong and tense in cases of active aneurism of the left ventricle, the concentric hypertrophy of Bertin and Bouillaud, and in a similar case, with a slight contraction of the aortic orifice, small and fine. There are, however, other circumstances which will enable us to say whether it is the result of disease or debility. In the *cor. bovinum*, where there is an active circulation of the cavities, with a free opening of the aorta, the pulse is not only not stronger, but positively weaker than in the natural state. It is in fevers of the typhoid order that the pulse has been most carefully studied. Percival, no mean authority, alluding to the indications of the pulse in typhus gravior, says that they "are more uncertain and fallacious than in the milder species," and adds that, as the result of his own experience, "the pulse merits less confidence in any species of fever than is usually conceded to it." A variety of

circumstances may, independent of positive fever, conspire to alter the character of the pulse; even the change from the recumbent to the erect position will sometimes produce similar and identical results. Such is the difference in various subjects in the tendency to vascular excitement, that the indications of the pulse can seldom lead to permanently useful results. Percival saw many cases of typhus where the pulse never exceeded 90 at any stage of the fever, and had repeated instances of its preserving, throughout the disease, its healthy standard, and found it in three particular cases, where it never rose above 45, until the crisis, or convalescence. Heberden says that it will often never exceed 90 or 100, and yet be accompanied with delirium, restlessness, parched tongue, and ultimately death, without any comatose appearances. "A good pulse," Heberden says, "which I have known in comatose fevers, with deliriousness, rapid loss of appetite, would afford very little hope; a bad one, without any of these, might be harmless." It is to be lamented that the state of the heart's action has been so little attended to in the common continued fevers; and there can be little doubt that if it had engaged the same share of attention as the pulse at the wrist, we should now be in possession of some more satisfactory results. It is reasonable to suppose that if the pulse at the wrist indicates the state of the circulation, we should learn it more correctly by drawing our inferences from the heart itself, the centre of circulation; to be sure there may be more inconvenience in the examination of the heart, but objections of this kind can have no weight in a question of such importance. Let us hope that those whose connexion with hospitals enables them to follow up this subject will not allow it to rest here.

ON
THE LATE INFLUENZA.

BY DR. HEBERDEN.

IN the 3d volume of the Medical Transactions, published by the College of Physicians, may be seen the best account that is any where to be found of influenza in the year 1782, drawn up by a

committee of the fellows, from a large number of communications which had been invited from all parts of the kingdom. The same paper likewise contains some notice of similar disorders felt at different and distant times: and there is always some advantage to be derived from a collection of facts fairly detailed. It is, indeed, the only way of coming to any sure conclusion on medical subjects, and keeping clear of prejudice and error. So, because this late epidemic occurred at a time of year when catarrhs and coughs are always very common, it might have been supposed that the influenza was but a modification of the same general effects; but the former occurrence of these disorders effectually undeceives us, by the assurance that at other times they have happened in June. It was in this month that it spread in the year 1767, after a season colder than usual. But again in 1762, it occurred in the same month after great heat. In some instances it has been traced from south to north; its progress this year appears to have been from north to south, for I see by the public papers that what we felt in January, is not yet over in Portugal, two months later.

The prominent features of the influenza seem in all instances to have been alike; sufficiently alike to identify the disease, though sometimes one symptom, sometimes another, may have been more conspicuous. Thus catarrh, cough, and fever, have been common to all; but in some the catarrhal affections, in some the cough, in others the fever,

has been more severe. Accordingly, pains about the chest, or pains of the head or of the limbs, have been more or less prevalent in different seasons; but at all times the disorder has been followed by a great degree of languor. I have premised these few general observations for the sake of introducing a statement of some particulars deducible from the bills of mortality. For while the parish clerks' returns are confessedly liable to great errors and great irregularities, yet they afford some evidence, which it would be impossible to collect from any other source. The correspondence of one bill with another shews that they have a foundation in truth; while a comparison of the christenings with the burials, presents a wholesome check upon the reports; for the births can in no way be affected by a prevalence of an epidemic, which would swell the number of deaths. But when both christenings and burials increase, or diminish together, it may generally be attributed to a neglect, or accumulation, of the parochial returns. It is for this reason that in estimating the progress of the late disorder, I have not only inserted the number of christenings reported each week, but also the proportion they bear to the burials; moreover, the first term of the proportion has been always reduced to the same number 4, in order to make the fluctuation of the burials more evident. The table shows likewise that while the deaths at all ages were increased by the influenza, those of the old were most sensibly altered.

FROM THE WEEKLY BILLS OF MORTALITY.

1837.	Christenings.	Burials.	Christenings to Burials.	Influenza.	Age from 30 to 40	50 to 60	70 to 80
Jan. 3 ..	363	228	4 to 2.5	0	14	20	22
Jan. 10..	487	284	4 to 2.5	0	23	42	30
Jan. 17..	384	477	4 to 5	13	49	70	53
Jan. 24..	520	871	4 to 6.6	106	69	95	122
Jan. 31..	307	860	4 to 11	99	71	54	113
Feb. 7 ..	532	589	4 to 4.4	63	41	69	77
Feb. 14..	474	558	4 to 4.7	35	54	70	59
Feb. 21..	316	350	4 to 4.4	20	36	36	31
Feb. 28..	809	321	4 to 1.6	8	32	24	37
Mar. 7 ..	480	262	4 to 2.2	4	23	23	19

Hence the influenza may be considered as beginning about the 10th of January, to have attained its height in about a fortnight, and to have ceased

after six or seven weeks from its first appearance, and I believe a progress similar to this has been observed in all instances of this complaint.

ON THE CONNEXION
OF THE
ANTERIOR COLUMNS OF THE
SPINAL CORD WITH THE
CEREBELLUM*.

BY SAMUEL SOLLY, Esq. F. R. S.

Lecturer on Anatomy and Physiology at St. Thomas's Hospital.

THE following observations have been drawn up with the view of communicating to the Royal Society an anatomical fact of considerable importance in relation to physiology; and the author hopes that its promulgation will assist the labours of those who are now engaged with researches into the functions of the central division of the cerebro-spinal axis of the nervous system in man.

In relating this fact it has been deemed unnecessary to dwell at length on the important inferences which may be drawn from it, or to preface it with many introductory observations.

One of the few clearly-established principles regarding the functions of the nervous system, and for the discovery of which we are indebted to Sir Charles Bell, is, that the anterior roots of the spinal nerves are conductors of volition to the voluntary muscles, and the posterior roots of the same set of nerves conductors of sensation from all parts of the body. This fact once clearly established, it follows as a consequence that the anterior and posterior portions of the spinal cord must perform a similar office to the anterior and posterior roots of the nerves connected with them, in consequence of the continuity of the filaments of neurine which compose them. And though the exact line of demarcation between these two tracts, for volition and sensation, in the spinal cord has not yet been ascertained†, we are all equally interested in the following inquiry,—With what portions of the brain are they connected?

It cannot be disputed that more accurate knowledge on this point would afford us a better clue to the respective office of the grand divisions of the en-

cephalon than any other. Some physiologists even in the present day have argued that the office of the cerebellum must be immediately connected with the phenomena of sensation, from erroneously supposing that the tracts of sensation are alone continuous with its structure.

Anatomists when engaged in studying the relations of the spinal cord to the cerebral mass, have generally pursued the dissection from below upwards, on account of the great facility of tracing its fibres in that direction. In so doing they have hitherto followed the anterior and lateral columns of the cord solely to the cerebrum, and the posterior columns exclusively to the cerebellum. Consequently the corpora restiformia, or *processus e cerebello ad medullam oblongatam*, have been described as consisting entirely of fibres from the posterior columns*.

The author having been able, by repeated dissections of the brain previously hardened by long-continued immersion in alcohol, to satisfy himself of the existence of certain fibres, which have hitherto escaped observation, ascending from the antero-lateral columns of the spinal cord to the cerebellum, will proceed to detail their course and arrangement.

In order to execute this portion of his task with clearness, he feels it necessary to refer to the composition of the cord, as demonstrated by a transverse section. It will then be seen that the cineritious neurine deposited in the interior of the cord is arranged on each side, so as to form two semicircles, with their convexities opposed, and attached by a transverse bridge, the posterior peaks alone reaching the surface of the cord. This last-mentioned arrangement of the grey matter, it will be seen, actually divides each side of the cord into two distinct columns. The posterior portion is the true *posterior column*, and the line of demarcation is distinct on the surface without a transverse section, in consequence of the posterior roots of the spinal nerves

* From the Philosophical Transactions, just published.

† From several facts, which it is unnecessary to mention at present, I have little doubt that each side of the cord is equally divided into a motor and a sensory tract, the anterior half being appropriated to volition, the posterior to sensation.

* Mr. Herbert Mayo is, I believe, the only author who points out the fact that the restiform bodies are partly formed by some fibres from the posterior part of the cord, but anterior to the posterior lateral fissure, and therefore not solely by the true posterior columns. In the second edition of his *Outlines of Physiology*, p. 273, he says, "On cutting through and stripping down the corpus restiforme, it is found to carry with it the posterior lateral furrow."

emerging at that point. All that portion of the cord which is anterior to this posterior lateral fissure not being divided in a similar way, may be called the *antero-lateral* column.

From the antero-lateral column of the cord there are two sets of fibres ascending to the cerebellum, one from the anterior portion of the antero-lateral column, the other from the posterior. The posterior set of fibres are separated from the posterior columns by the posterior peaks of grey matter; and judging from the fact that the sensory division of the fifth pair of nerves is continuous with these fibres, it appears most probable they form part of the sensory tract.

The anterior set, the *cerebellic fibres of the anterior columns**, proceed from the front and sides of the cord, continuous therefore with the true motor tract. A portion of them may frequently be seen without dissection, and have been adverted to by several writers under the title of arciform filaments, though their termination in the cerebellum remained undiscovered.

These *cerebellic fibres of the anterior columns*, opposite the decussation of the *pyramidal bodies*, are separated from the posterior fibres of the antero-lateral columns, already described as ascending to the cerebellum, by fibres which occupy a place in the middle of the side of the cord. These fibres, which subsequently ascend through the pons Varolii to the cerebrum, and form the upper portion of the crus cerebri, have lately been described by Sir Charles Bell as a portion of the tract of sensation. The *cerebellic fibres of the anterior columns*, as they ascend to the cerebellum, pass principally below the olivary bodies, sometimes crossing the lower border of these bodies, while others which are deeper seated pass to the inner side of them. The whole, during their ascent to the cerebellum, cross to the outer side of the tract of sensation above referred to, and sensory root of the fifth pair of nerves, and then, plunging into the substance of the corpus restiforme, interlace with the true posterior columns of the cord, and finally terminate in the cerebellum.

These fibres, whose importance to the

physiologist, as proving unequivocally the existence of a complete communication between the motor tract of the spinal cord and the cerebellum, need not be dwelt on, are most easily demonstrated in the following way:—Let the posterior column be separated from the antero-lateral column, at the posterior lateral fissure, about two or three inches below the pons Varolii; and subsequently draw very carefully the posterior column, thus split from the anterior, up towards the cerebellum. The rent in the cord, which tears smoothly till it reaches the lower edge of the corpus restiforme, is there arrested by the *cerebellic fibres of the anterior columns*, unless too much force has been used, in which case they are easily torn through, and escape observation. They may be likewise shown by making the rent in the antero-lateral column itself, exactly at the centre of the lateral face of the cord, thus dividing the cord into two halves, an anterior and a posterior, and then continuing the rent in the same way. Again, these fibres may be shown by tearing up that portion of the front of the cord which is anterior to the anterior roots of the spinal nerves, which portion will be found, at the point where the anterior columns decussate, to split into three sets of fibres: one set of fibres cross to the opposite side; a second run to the inner side of the corpus olivare; a third set, which are not numerous, run below and to the outer side of the corpus olivare, and, ascending to the cerebellum, constitute a portion of the fibres in question.

If the sensory root of the fifth pair of nerves be traced through the pons Varolii, and the fibres which lie to the outer side of it in the medulla oblongata examined with care, they will be found connecting the anterior portion of the cord with the cerebellum; or, in other words, they will be found to be the *cerebellic fibres of the anterior columns*. The surface of these fibres is exposed by simply raising the pia matter, and carefully scraping the surface in a portion of the medulla previously hardened by alcohol.

[We have omitted the references to an Engraving by which the paper is accompanied; the description appearing to us perfectly clear without them.—ED. GAZ.]

* The fibres whose existence this paper is intended to demonstrate.

MEDICAL GAZETTE.

Saturday, April 8, 1837.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

DISUNION OF THE BOROUGH HOSPITALS.

WE were enabled last week to announce the result of the action instituted by the authorities of St. Thomas's Hospital against some pupils of Guy's. All the parties were acquitted on the charge of riot, but three found guilty of the assault. The law of the case was thus clearly established; but the extreme smallness of the fine (10*l.*) shews clearly how much the Court was inclined to be lenient.

The whole affair appears to us to be very much to be lamented; and we certainly had hoped that the long interval which has occurred since the offence was committed, would have led to some accommodation, and spared the necessity for the last appeal. Where the blame rests we cannot pretend to say, but that there has been mismanagement somewhere is very clear. A want of conciliatory disposition, we are told, was evinced; but the parties blamed differ, according as our informants are connected with Guy's or St. Thomas's respectively.

The mischief, however, is done, and the schools are separated; or rather, the advantage of either school having two great hospitals exists no longer. There still remains, however, an ample field for the pupils of both establishments, if it be duly cultivated; but we suspect it will require considerable tact on the part of the teachers to prevent a spirit of hostility from becoming engendered among the pupils, some indications of which we think it not difficult to perceive in cer-

tain letters which have been addressed to this journal. The only rational thing which either teachers or pupils can do now, is to emulate each other, the one in affording opportunities of gaining knowledge, and the other in embracing them. If any thing like dissension should occur, it will prove of immediate and formidable injury to both; for parents will be afraid to send their sons to a school where they are exposed to the risk of getting involved in quarrels, particularly if this is to be followed by exposure and prosecution.

In making these remarks we are actuated by no feelings but those of goodwill towards both St. Thomas's and Guy's—long, in their union, the most popular schools in the metropolis; but there are individuals at either establishment, whose names have been mentioned to us, as calculated, by their harshness, or impetuosity, or spirit of dictation, to prevent the restoration of that mutual good feeling which it is so desirable, on all accounts, to see established.

THE "TENDER" SYSTEM.

WE understand that the Master and Wardens of the Society of Apothecaries have addressed a petition to parliament, against the present system of medical attendance under the Poor-Law Commissioners, with especial reference to the practice of receiving tenders. In the expediency and policy of this proceeding we need scarcely say that we heartily concur. But is it to be left for this, of all the corporate bodies, to stand alone in opposing a measure derogatory to the respectability of the profession, and injurious to the best interests of humanity? That the College of Physicians should refuse to be roused, is nothing wonderful, the *dolce far niente* apparently being their maxim,

at least at regards all public questions ; the practical working of which has been illustrated by their having refused the museum of Hunter, and repudiated the control of medical education when offered to them : by the former of which the College in Lincoln's-Inn-Fields, and by the latter of which the Society in Blackfriars, have grown first into rivals, and latterly into triumphant opponents. That they should slumber till the time for action be gone by, is nothing more than in keeping with their former history ; but that a body so active and stirring as the College of Surgeons — one generally so alive to its own interests — should hesitate to interfere, does, indeed, surprise us. Some of them say, "We have no power: what can we do?"

We say they have power, and can do a great deal: they have the power to petition, and can place on record their disapprobation of the vile traffic in disease; a traffic which puts up human beings to sale, and leads the needy and inexperienced to bid against each other, till the pittance awarded and accepted for professional aid be brought below that of the mechanic, or even the labourer. It is most disgraceful to a Christian country, that such a system should ever have been tolerated, and most mortifying to think that it should have been countenanced by a Board of Government Commissioners. But as regards our profession, its effects are calculated to be of the most baneful kind. One set of medical practitioners (the successful competitors for parish favours) are at once rendered objects of pity or contempt by it; and the degradation of one branch must necessarily tend, more or less, to bend the trunk. Let us not be asked, then, what can we do? It is not the way, but the will, which is wanting. Let the Colleges of Physicians and Surgeons place on the table of both Houses of Parliament their

protest against the "tender" mercies of the present system, or let them consent on this question to yield the palm of public spirit and activity to their brethren of "the Hall."

MEETING AT THE COLLEGE OF PHYSICIANS.

THE second evening meeting took place on Saturday, the 1st instant. The arrangements were much better than on the previous occasion, the President's chair being placed in the centre of the room, opposite the principal entrance, so that the Registrar was thus distinctly heard by all. The meeting was numerously attended, but as we remarked with respect to the first night, there were very few members of the College present.

Two papers were read—one from the pen of Dr. Heberden, on Influenza—the other from that of Dr. Mayo, on Hydrocephalus. We have given insertion to both, in the preceding part of the present number. (See pages 42 and 50).

SPECIMEN OF A BULLETIN.

WE remember that during the illness of his late Majesty, some of our worthy contemporaries were greatly dissatisfied with what they termed the cautious and general terms in which these documents were expressed. We advise our Court Physicians hereafter to adopt the model of their Portuguese brethren, as in the one which follows:—

"It is highly probable that her Majesty may be in a state of pregnancy—but the probability will augment when such phenomena will occur as generally appear and are to be expected from the fourth and fifth month forward."

[Signed by eight Physicians and Surgeons.]

This amounts pretty nearly to informing us, that if her Majesty be as ladies wish to be who love their lords, then the "probability will augment" when it ceases to be a probability and

has passed into a certainty—otherwise, (that is, if she prove not to be pregnant,) then we presume that the probability of her being so will diminish.

TRIAL OF MR. PENRUDDOCK.

THIS cause, the particulars of which are already before our readers, came on at the London Sessions, on the 5th instant. The defendant pleaded *Guilty*; some of the principal witnesses were nevertheless examined, after which the Recorder sentenced Mr. Penruddock to twelve months' imprisonment in Giltspur-street Compter. We subjoin the learned gentleman's observations upon the subject, in which some reference is made to the former proceedings.

The RECORDER said it became the painful duty of the Court to pronounce sentence for an assault of which the defendant had confessed himself to be guilty. The circumstances of the case and the consequences had been brought to the attention of the Court, and an able appeal had been made by the learned counsel for the defence. It was undoubtedly true that the defendant had undergone all the anxieties arising from the condition to which he brought himself for the period of six weeks, and that he had had to endure the miseries of that painful interval before his fate was pronounced by the jury. The Court had not lost sight of those facts, but they could not at the same time but see the justice of the observations of the defendant's counsel, that to the latest hour of his existence the defendant ought to feel the deepest sense of gratitude to the jury, for the verdict they had returned. They could not but see that the case bordered so clearly upon an offence of a capital description, that whilst they must apprehend that the defendant underwent extreme anxiety, the observation was well founded that he was much indebted to the jury for his liberation from the consequences of a conviction. If, then, on the one hand, the defendant had to lament the pain of imprisonment and suspense, he had, on the other hand, to rejoice at the

favourable issue of his trial. A good deal had been said about negotiation on the subject of the proceedings which were to take place subsequently, but the Court were bound to say that in this, as in all cases, they would look to the protection of the public, and proportion the sentence to the injury committed against the public. When the Court referred to the case they found that an assault had been committed at a public examination, the examiners at which were obliged, in their character of trustees, to take care that no persons should be allowed to practise who were not qualified, and they found that the defendant, upon being mildly informed of the decision of the examiners, inflicted a severe wound upon one of them, and afterwards assaulted others. Bearing in mind these things, and taking care that the station of an individual should cause no difference in the nature of the punishment to which he should be subjected, the Court were of opinion that public justice would not be satisfied with a less infliction than the sentence of 12 calendar months' imprisonment in the Giltspur-Street Compter, the defendant, at the conclusion of that period, to give security for his good behaviour to the Society, himself in 200*l.* and two sureties of 100*l.* each.

DEATH OF DR. MOWER.

WE regret to announce the death of Dr. Mower, of St. James's Place, physician to the Hospital Ship at Deptford. Dr. Mower was a very intelligent and gentlemanly man, highly respected by those who had the pleasure of his acquaintance.

ST. GEORGE'S HOSPITAL.

Deformity of the Lip—Strangulated Hernia—Lithotomy—Necrosis of the Humerus—Diseased Metacarpus—Compound Fracture into the Knee joint.

Operation for Deformity of the Lip.

ON Thursday, March 23, the only operation was one by Sir Benjamin Brodie, for a trifling unsightliness of the upper-lip, which a young man wished to get rid of before entering into the holy state of matrimony. It was not a common hare-lip, but a depression about three-quarters of

an inch deep, and half an inch broad, looking like an elongated cicatrix; the centre of the lip at this part, consisting only of the mucous membrane and a thin skin, without any muscular fibres. A triangular piece was removed by a pair of knife-edged scissors, and the cut edges brought together with one hare-lip pin and three ligatures, so that only a linear cicatrix will remain.

Operation for Strangulated Hernia.

On March 24th, a woman, 35 years of age, was admitted with strangulated femoral hernia. The hernia had existed for many years, and appeared to have been strangulated for three days. On her admission the tumor was very tender, with some distension and tenderness of the abdomen, frequent vomiting of matter, with a slightly fæcal smell, and increase of pulse. The operation was performed about 10 P.M., by Sir Benjamin Brodie; and the stricture being divided with some difficulty, the hernia, consisting of three or four inches of small intestine, was returned into the abdomen. Unfortunately, the strangulated part must have burst in the reduction, as a great quantity of fluid poured out of the intestine as soon as the finger was withdrawn. Some attempts were made to draw down again the portion of intestine, but this could not be effected; and after about a pint and a half of fluid fæcal matter had flowed out, as no more issued, she was placed in bed; some oiled lint having been passed through the wound, to allow of its further escape, and a pair of forceps were held in the orifice to facilitate this object still further. She immediately appeared to look more sunk, and perspired much, and died about 4 A.M., five hours and a half after the operation. On examination the next day, very little fæces seemed to have escaped into the peritoneum, not more than enough to tinge the lymph which had been secreted, and an opening, about half an inch in diameter, was found in the strangulated bowel, not far from the seat of the stricture.

Lithotomy.

On Thursday, March 30th, there were three operations. The first was for stone in the bladder, in a man about fifty years old, by Mr. Babington. The patient had been in the hospital since November last, having much inflammation of the bladder, and some disease of the kidneys; the urine being alkaline and albuminous, and containing much ropy mucus; and the bladder being very sensible, and contracting forcibly and frequently. His health having much improved, attempts were made to

dilate the bladder by injections, with a view to the crushing the calculus; but this proving impossible, it was thought better, on consultation, to remove the stone by the lateral operation, lest he should get into a still more unfavourable state for any operation. The operation was performed with a beaked knife, having one cutting edge, and with a blunt gorget afterwards; and a flat stone was withdrawn with some difficulty, in consequence of the contracted state of the bladder making it impossible for some time to catch hold of it with the forceps. The patient appears to be going on well.

Operation for Necrosis of the Humerus.

After this a patient was brought in with several openings leading to dead bone in the left humerus. An incision having been made by Sir Benjamin Brodie along the front of the arm, in the situation of the outer edge, an opening was made by a small trephine through the new bone, and three pieces having thus been removed, the old bone in the cavity was divided by the trephine and elevator into two pieces. The upper was drawn down, and was about an inch and a half long; after which, as the lower portion could not be extracted, the trephine was again applied to the new bone covering it, and a sufficient opening being thus made, the dead bone was extracted, which proved to be a thick piece, the entire circumference of the old bone, above two inches long. The cavity was then dressed with dry lint.

Amputation of the Metatarsal Bone of the Great Toe.

A lad was next brought in with a great mass of disease around the inside of one foot, through which numerous openings led down to dead bone. An incision was made by Mr. Hawkins, from between the great toe and the second, across the dorsum of the foot, and along its inner side to the cuneiform bone, which was met by another on the under part, beginning where the first commenced, and being carried round to meet the first, near the head of the metatarsal bone of the great toe. The two flaps were then dissected back, so as to expose the metatarsal bone, and as on examination with the probe it was found to be diseased quite to its head, it was cut across with a pair of bone-forceps, close to the joint with the internal cuneiform bone, and the whole of the diseased parts were then cut away with the knife. Some lint was placed between the flaps, as they were perforated in so many places by sinuses, in order to prevent union, and the flaps were then lightly approximated. The disease

had existed eight years, and it was found that many parts of all the three bones were dead, and both of the joints diseased.

Compound Fractures of the Thigh and Leg.

On the 27th, a man was brought into the hospital, who had fallen about ten feet with, or through a ladder, with which he was cleaning windows, having a compound fracture of the thigh. The bone was broken transversely, just above the knee-joint, the end of the bone protruding three inches through the skin, which was obliged to be cut by the house-surgeon, in order to reduce the projecting bone; the condyles were also found to have been split longitudinally into the joint. The man was seen by Mr. Cutler, in the absence of Sir Benjamin Brodie, who wished to have removed the limb, but unfortunately the man would not consent to the operation. He seemed to suffer a good deal the next day, and fell into a low state, ending in muttering and delirium, and died on the 29th, about fifty-four hours after the accident. It will be observed in our last report (page 29), that two patients had refused amputation in the preceding week for compound fractures of the leg. They have both suffered much from inflammation of the legs, but not more than might be expected, so that the result of the cases has yet to be determined.

Two other operations have recently been expected—one for calculus of the bladder, but an attack of erysipelas came on, and the friends of the boy, who was dangerously ill, insisted on removing him from the hospital; the other was a man, who wished much to have amputation of the thigh performed for a diseased knee-joint: on consultation, however, the surgeons advised him to postpone it for some little time, to try whether the limb could not be saved.

SKETCH OF THE HOSPITALS

OF THE

BRITISH AUXILIARY LEGION IN
SPAIN*.

For this we are indebted to a young naval surgeon of much ability, who occasionally visited the hospitals of the Legion, and had opportunities of observing the manner in which they are conducted. He does justice to the exertions of the medical officers, who deserve great credit for what they have effected, in spite of difficulties of

every description. Amongst those officers, we may signalize Mr. Alcock, whose experience, gained at the siege of Oporto, and in many bloody fights in Portugal, has been happily applied to the mitigation of the sufferings of his brave comrades in Spain.

“ There is a painful interest attached to all the circumstances connected with the present contest in Spain; to none perhaps more so than to those of the unfortunate British Auxiliary Legion, and its very able, zealous, and laborious medical staff. From their first landing in that distracted and apparently doomed country, the medical officers of the Legion, but especially those on the Staff, have had their hands fully employed, in a variety of practice such as can rarely, if ever, fall to the lot of men engaged in more private life. The resources of those gentlemen have been taxed to the uttermost; their health and strength have in too many instances given way under a combination of adverse circumstances. Death destroyed many, and many more have been compelled to retire with the bankrupt estate of a broken constitution, an empty purse, and the already *dishonoured* bills of the Spanish paymaster-general. A band of determined men remain to abide the issue of the war, and continue their assistance to ameliorate its horrors. It is to be hoped that some of them will hereafter furnish their professional brethren in this country with a medical history of the British Auxiliary Legion; such a work, drawn up with care, and with a moderate degree of talent, would supply one of the most conclusive arguments against such wild and futile enterprises as that in which they have been engaged. The disastrous consequences of their sojourn in Vittoria—the ravages of typhus there, at Bilboa, at Santander, and at San Sebastian—the cart-loads of killed and wounded brought in, from time to time, to the military hospitals—and the deplorable state to which hundreds are already reduced—would furnish abundant materials for such a work. The multitude of interesting facts afforded by nearly two years’ military practice at the seat of war itself, might render it of incalculable value to the military branches of the profession. And the melancholy exhibition it would make of the ignorance, vanity, conceit, and dogged obstinacy of the Spanish and other executives, in resisting the humane efforts of their medical attachés to give efficiency to their department, might teach a salutary lesson to those who will only learn lessons of humanity, or even common-sense, when taught them in the hearing of that public on whose breath they feed and live.

* From the Medico-Chirurgical Review.

The writer of these observations was in no wise connected with the Legion. It was not his lot to serve in that body—and to any credit that is due to the medical branches of it, he has no claim. It is, and ever will be, matter of regret to him, that the very harassing nature of his own employment left him few opportunities of improving his acquaintance with the labours of his professional brethren in that, in many respects, unfortunate corps.

But the want of ability and energy which appears to characterize the executive department of the Legion, is not visible in the medical, or, as it is contemptuously designated, the Civil department. And the provision made for the comfortable reception and treatment of the sick and wounded soldiers is creditable to all concerned. At Santander and San Sebastian, between which places the different regiments are divided, very respectable hospitals have grown up for the reception of casualties, &c., and the general order, cleanliness, and attention paid to the patients, might be transferred with advantage to some of our more costly establishments nearer home.

There is but one hospital at Santander, pleasantly and healthily situated on an eminence, overlooking the town and harbour. The interior is far cleaner than the exterior, a somewhat strange anomaly in either public or private buildings in a Spanish town. The beds well supplied with bedding, and arranged at convenient distances in three parallels. The attendance good; and the patients quiet, orderly, and cheerful, for the most part, notwithstanding their sufferings. Most of the cases there were convalescent at the time of the visitor's visit—and none of particular interest. A very virulent form of itch was prevalent among some of the inmates, who were separated from their companions in consequence, and, half naked, set to rub one another from head to foot with the ung. sulph. comp. They were deplorable objects; and I never before saw the disease assume so fearful a type.

At San Sebastian there are two hospitals (English), San Telmo and La Lonja. The former is appropriated to the reception of surgical cases principally—the latter was chiefly filled with cases of fever. Typhus, happily, milder than usual, was, at the time of inspecting it (November, 1836), prevailing in the town, and La Lonja was accordingly excessively crowded. Most of the patients lay two in a bed,—many of them had not so much as a shirt to cover them. The effluvia were intolerable, and it must be confessed that the contrast between it and San Telmo

was very broad, and by no means favourable to the mode of conducting it.

San Telmo occupies an extensive site under the castle hill, and on the eastern shore of the isthmus connecting that promontory with the main land. Formerly a monastery, one may be sure the "holy fathers," who chose it for their residence, paid especial attention to all the advantages of sight and sense, before deciding to domiciliate there. As a surgical hospital it may be said to have grown out of the action of the 5th of May, when the edifice was desecrated to the purposes of a Spanish barrack. The wounded, after that action, were obliged to be distributed in different buildings, from the want of a suitable edifice for their general reception—and the inconvenience and excessive labour resulting from such a state of things led to the ejection of the sound and healthy soldiery from this convent, and its subsequent conversion into a hospital for the wounded.

It has extensive accommodations—is well attended—and evidently the subject of admirable and consistent discipline. There are, besides offices, store-houses, and a tolerably well-stocked dispensary, five long, lofty, and airy wards, each of which is said to be a "division," and has been taken advantage of for the better classification of patients according to their respective cases.

The *first* division contained only *slight* cases, in which general designation are included diseases of the eye and eyelids, flesh wounds and their sequelæ, &c. &c.

The *second*, cases of compound fractures of the extremities and amputations.

In this ward there was one curious, but, alas! by no means uncommon case, of spontaneous amputation of both legs. The wretched object was one of the sufferers from fever at Vittoria, and one of the consequences of that fever, and of the cold and wet to which he and his companions were inhumanly, and, in a great degree, unnecessarily exposed, by the Spanish jealousy of Cordova, was, mortification of both feet, a little above the ankles—the feet literally dropping off, and the vis medicatrix naturæ supplying their place with very fair stumps, without the aid of surgeon or surgical instrument.

It would be unjust to those who have had the anxiety and labour of treating the cases in this ward, and from whom it is expected that some valuable practical observations are forthcoming, were the writer to cite particular cases of interest here. The number of compound fractures of the extremities has been very great, and the treatment generally very successful. In cases of fracture within the capsular liga-

ment of the femur, several attempts, however, have been made to save the limb, but always, I believe, at the cost, ultimately, of the life. The possibility of re-union of the broken bone within the capsule, is still, however, insisted upon, and apparently somewhat countenanced by the result in one femur which was shown me, and the history of which, it is thought, will be published by Mr. Alcock; but, in that example, the re-united portion of bone had not been fractured within, but at the insertion of, the ligament. And the practice is surely perilous in the extreme to the patient, protracting, of necessity, his suffering to so great a length, as to leave him, at least, little chance of deriving benefit even from an operation; while the advantage to be gained in the preservation of a limb, however desirable, cannot for a moment be weighed in the balance against the fearful loss of life, which has hitherto attended such attempts to restore the soldier to the service without mutilation. The knife is the *dernier ressort* certainly of the surgeon whose head and heart are alike accomplished for the successful exercise of his profession, one with knowledge and judgment, and the other with sensibility and kindness. It is as certainly the first appeal of the inexperienced and unfeeling, because ignorant, novice in surgery. But when resorted to, as in the cases referred to we contend it ought to be, it should be with promptitude and without fear.

I may here also take occasion to observe, that the various divisional surgeons at San Telmo have, in their amputations, adopted very different practices. One continues the old circular, and, we may say, circuitous method; another, treading in the steps of his master, Mr. Liston, has introduced the flap operation. A third has attempted to improve it by an operation, half-circular half flap, preferable to the common circular one in the subsequent appearance of the stump, inferior to that of the flap by prolonging the operation, and consequently the punishment of the patient.

The *third* division, or ward, is given up to cases of complicated flesh-wounds;—wounds penetrating the joints and great cavities, or accompanied with lesions of arteries and nerves; and compound fractures of the head and chest. The cases here, as will readily be conceived, were of great interest, and some of them exceedingly curious. The great advantage of constant medical superintendence was apparent in the recovery of some, at first hopeless, cases of gun-shot wounds penetrating the lungs and fracturing the ribs. Indeed it is impossible that any thing can exceed the attentions

paid by the divisional surgeons to their respective wards, and to the comfort and well-being of the men entrusted to their care. The happy results will be manifest, should the proportional tables which are kept be hereafter published.

The *fourth* and *fifth* divisions are reserved wards, used chiefly for convalescents.

And a further subdivision of cases is obtained by arranging corresponding cases in sets.

Each division has one staff surgeon, and two assistants. The average number of patients in each ward, for whom professional attendance is thus provided, is about 90, or 450 in the whole hospital; which, however, has, upon occasions, contained upwards of 500 cases at one time.

Under the medical officers of each division, the following servants are employed:—one female nurse, one ward-master, an assistant ward master, who acts as clerk of the division, and ten orderlies; these last being, more or less, disabled men.

The orderlies are selected principally from “the hospital corps,” which was formed of men who had been previously declared unfit for regimental duty by a board composed of three staff-surgeons, with, now and then, the inspector, or deputy-inspector-general; and consists of 100 men for service in the interior of the hospitals, at an average of one orderly to eight patients. They are paid by the Deputy Purveyor, 1s. 1d. *per diem*, and commanded by a Lieutenant.

Besides this corps, there is another, called the “Hospital Transport Corps,” commanded like the former, by Lieutenant Smith, B.A.L.; but, unlike the former, composed of able-bodied men, from 30 to 40 originally, since increased to 50, and mostly tradesmen. This corps was formed in England, is employed on fatigue duty, and in repairing defects about the building, &c. They are paid like the waggon-train, 1s. 10d. *per diem*, and supply the wardsmen.

The staff-assistant-surgeons perform the duties of “orderly medical officers” in rotation, when they remain throughout the day, and also sleep in the hospital in readiness to receive casualties, and prescribe for cases of emergency; an admirable plan, which might, with some modification, be adopted in our metropolitan hospitals—and is, or at least was, acted upon at the London Hospital. The advantage to the students in such case being obvious, interesting them in particular cases, and accustoming them to act subject to the correction of others, before sending them forth to act altogether upon their own responsibility.

Attached to each division is an orderly

room, where the various reports are made up; and in which the respective duties of every servant in the establishment are accurately defined, and explicitly stated.

The beds were ranged in three parallels along each ward; somewhat crowded, of necessity, but all as cleanly as could be expected.

On the arrival of every new patient, his clothes, &c. are exchanged for a complete suit of hospital clothing, and, together with his arms and accoutrements, deposited in a store, which for neatness and order may vie with any thing of the kind in England. It is a part of the ward-master's duty before taking down a patient's clothing, to stitch the name of the owner to each article, with the joint initials attached, an excellent and necessary precaution against suspicion of robbery or fraudulent exchange, when restored.

The patients are discharged twice a week, at which times the surgeons of divisions present to the deputy inspector-general a list of such as they deem meet to be sent out, and he further examines such men, and either confirms the previous opinion, or remands them for ulterior treatment.

The foregoing notice has been confined to the hospitals belonging to the British Auxiliary Legion, and is almost a literal transcript of notes made on the spot at different visits paid by the writer, on his occasional arrivals at San Sebastian in one of his Majesty's vessels of war. That it is so meagre he regrets exceedingly, but the condition of a naval medical officer, particularly if alone, is of all conditions the most precarious, he can neither calculate upon time or tide, wind or weather, and such facts as he can collect, he must gather as he can, not as he would, happy, if allowed to gather any beyond the precincts of a midshipman's berth if an assistant surgeon—or, of a gun-room, if a surgeon.

And this remark suggests to the writer a mode of accounting for, what, to himself, appeared strange, and to others was *felt* as ungracious, not to say ungenerous, in his professional brethren employed on the North Coast of Spain. Only one or two had ever visited the Hospital of San Telmo. Even the second surgeon of marines, living as he did at San Sebastian, had never "honoured" the interior of that building with his presence—and thus let slip an opportunity for which others would have gladly paid any price. Why this apparent apathy—why this "tipping the cold shoulder" to members of the same profession—arduously, and, truly, honourably engaged, in the peaceful and laborious exercise of that profession? It may seem abundantly absurd, but it is

nevertheless unquestionably true, that the distinction of caste holds elsewhere than in India. The officers of his Britannic Majesty's Navy deem it derogatory in them to associate generally with the officers of her Catholic Majesty's British Auxiliary Legion, and it is feared that the medical corps of that navy participate in such narrowness of feeling. But this is not the case. The Hospital at San Telmo would, doubtless, have been more generally and frequently visited by the medical men of the squadron, had their stay not been so uncertain as it invariably is in harbour, and were the difficulties to civilians going to and fro out of their ships less than they are rendered by those in command.

It may be added that, there being several hundred royal marines employed at Passages, a port distant three miles from San Sebastian, and a good number of royal marines, royal artillerymen, and engineers, engaged strengthening the lines between those places, there are also two surgeons R.N. attached to them, who reside on shore; the senior, Mr. Dabbs, at Passages, where he has a very well regulated hospital. His whole time is nearly occupied in personal attendance upon the arduous and excessive duties of an hospital for the sick and hurt of upwards of 800 men—without even an assistant being allowed him, while his colleague at San Sebastian has, comparatively, nothing to employ him, and, being of equal rank, cannot, and ought not, consistently with official etiquette, to be employed as an assistant. Here, at Passages, the diseases have been chiefly visceral and epidemic—partly the effect of climate—partly of the local situation of the town—and partly also of the incessant occupation of the men on the summit of a hill, which bares its head to every northern blast, and on which, for many months, there was nothing worthy the name of shelter either from wind or rain.

The Spanish Hospitals have not been noticed; but little sympathy appears to exist between the Spanish and English faculties—and little correspondence, as a matter of course, takes place between them. What was, in peaceable times, the Escuelas Publicas, or Public School, is now an hospital for Spanish sick and hurt. I visited it, but could find no medical guide through the wards, which were clean and quiet, and was obliged to content myself with the exchange of civilities, and with pouring a word of comfort and encouragement here and there upon the auditory nerves of our Spanish neighbours."

DR. TODD'S CYCLOPÆDIA.

To the Editor of the Medical Gazette.

SIR,

ALLOW me to express my obligations to "Philalethes" for having afforded me the opportunity of explaining the occasion of the recent delay in the publication of the Cyclopædia of Anatomy and Physiology.

The promises of the Editor of such a work as the Cyclopædia are made in reliance upon the promises of the contributors, and it sometimes happens that unforeseen circumstances prevent the latter from fulfilling their engagements. The delay in the publication of the last Part, and of the 10th, or forthcoming one, has in each case been caused by a disappointment of this kind on the part of one contributor.

Every exertion is being made to prevent the recurrence of similar delays, and I have every reason to hope that regularity of publication will be ensured.

It is due to the publishers of the Cyclopædia (Messrs. Sherwood and Co.) to say, that they have spared no pains to prevent disappointment; indeed, in every thing connected with the work, I am bound to bear testimony to their liberality and munificence, and their earnest solicitude to render it acceptable to the public.

I am, sir,

Your obedient servant,

R. B. TODD.

26, Parliament-Street,
April 4, 1837.

LIBRARY OF THE COLLEGE OF SURGEONS.

To the Editor of the Medical Gazette.

SIR,

ALLOW me, through the medium of the MEDICAL GAZETTE, to suggest to the Council of the College of Surgeons the propriety of extending the hours during which the library is kept open. The present hours, viz. from 10 until 4, are perhaps the worst that could be selected, since during that part of the day the practitioner is supposed to be engaged with his patients, and the student with his lectures and dissections. This will account for the very small attendance of readers usually found in the library; and I am convinced their numbers would be much increased if it were kept open from noon until dusk. It is true the members are allowed access to a reading-room three

evenings weekly, but several restrictions curtail the advantages which might thence result; and even if these were removed, I am certain the hours (7 to 10) would not be so convenient as those I have mentioned above,—many medical men having numerous engagements at home or abroad in the evenings.—I am, sir,

Your obedient servant,

A READING MEMBER.

March 28, 1837.

P.S. May I ask why the Council do not give Evening Meetings occasionally, as at the College of Physicians? Surely the advantages of such assemblies are very obvious.

ATMOSPHERE OF TUNNELS.

REPORT ON THE ATMOSPHERE OF TUNNELS,

Founded on Chemical Analysis.

BY D. B. REID, M.D. F.R.S., &c.

THE Leeds and Selby Railway Tunnel, in which the experiments have been made, is 700 yards long, 17 feet high, and about 22 wide. It inclines one foot in 300, and is provided with three ventilating shafts, made originally in excavating the tunnel. They are respectively, 23, 22, and 10 yards deep, measuring from the top to the floor of the tunnel.

No fire or machinery is used to promote the ventilation of this tunnel; I have no hesitation, however, in expressing my conviction that the air it contains is not injurious to the health of passengers, being renewed sufficiently often, by the currents which always prevail in it, to preserve a wholesale atmosphere. The following are the reasons that have induced me to adopt this opinion:—

1. The examination of numerous specimens of air, procured from the tunnel under every variety of circumstances, by an assistant, who made observations there for a week, according to the directions I had given him, has shown me that the amount of carbonic acid communicated to the air by the locomotive engine, is considerably less than 1 per cent.; an amount too trifling to be taken into consideration, as capable of affecting the health of passengers in the railway coaches, during their progress through the tunnel.

2. If the average amount of coke consumed in each trip within the tunnel be calculated, and the volume of carbonic acid it produces be compared with the bulk of the air in the tunnel, we arrive at the same conclusion as by the experiments referred to.

3. But the carbonic acid must not be considered as equally diffused throughout the whole of the air in the tunnel. From the circumstances under which it is produced, it is necessarily at an elevated temperature, and mixed with a large quantity of moisture; and though its temperature may instantly be reduced on coming in contact with the air, still the specific gravity of the great mass of the air in which it is enveloped is less than that of the rest of the air in the tunnel, and it floats principally above the roofs of the coaches till it escapes. The heat and moisture more than counterbalance any increased density from the carbonic acid, and numerous researches have shown that very heavy gases do not readily separate from air when they have been intimately mingled with it.

4. The temperature of the air in the tunnel, during the week that my assistant conducted his examination, &c., did not differ much from that of the external air; the greatest difference observed did not exceed six degrees. Its temperature is more uniform than that of the external air. On one occasion the temperature of the air at the top of the deepest shaft rose, in a few seconds, from 37 to 40 degrees, as the engine passed and the vapour ascended from it, and fell as quickly again to 37 degrees as the vapour escaped.

5. No impurity was detected in any of the specimens of air I received, except the carbonic acid, which, as already stated, bears a considerably smaller proportion than 1 to 100.

I may add, that I have been disposed to take a favourable view of the ventilation of tunnels generally, notwithstanding they should be longer than that under consideration; though local peculiarities may at times require special arrangements.

REMARKABLE CASE

OF

SPONTANEOUS COMBUSTION.

BY DR. JOLY.

BERNARD, æt. 73, and his wife, æt. 65, have long indulged to excess in spirit drinking. September 6th, they both became intoxicated, remained alone the whole night, and were found dead on the following morning. Four hours after they were found dead, Dr. Joly and the "Procureur du Roi" went to see the bodies. The room which contained them was shut. Several pieces of furniture in it were covered with a grey soot. There was a

strong empyreumatic smell, and on the floor, between a table covered with bottles and glasses, which had contained brandy, and the cinders of an extinguished fire, lay the legs of the two corpses, and a shapeless carbonaceous mass. Two of the legs, belonging to the same individual, had on stockings of black wool and cloth slippers. One of the stockings only was burned at its upper part. The skin covered by the slippers was but reddened; the tissues beneath, when cut into, presented no peculiar appearance. An inch above the knees the thighs were reduced to a black, shapeless, carbonaceous mass. There were no traces of the external genitals. Of the pelvis, and the parts contained within its cavity, there remained but the calcined superior edge of the left ilium, and the enlarged left ovary, buried in the midst of oily and foetid carbon. There was a separation of the articulation of the lumbar vertebræ; and at this part the body was divided into two, in consequence of having rested upon the other situated beneath it. Two or three vertebræ, which thus became exposed to the air, were consequently calcined and whitened. These were quite distinct from a mass of spongy and shining carbon, corresponding to the thoracic cavity and its contents. The only portion of this which was at all solid was the vertebral column, to which was still attached some blackened fragments of the first ribs of the left side. The calcined cervical vertebræ terminated in the incinerated cranium, which was so extremely friable as almost to fall into dust on the endeavour being made to lift it. The lower jaw alone had preserved more consistence. Beneath the remains of this corpse, and forming an X with it, were those of the second. The left leg, naked, and covered with vesicles containing a reddish serum on its anterior surface, was burned to the bone the whole of its length posteriorly. It was disconnected with the body. A cat had bitten the muscles of the calf, and torn them to the extent of several inches. A fatty and disagreeable liquid oozed from this laceration. The right leg was burned like the left. Its whole anterior surface was covered with large phlyctenæ, as well as the sole of the foot, although the latter entirely rested upon the ground. About three inches above the knees, the thighs were converted into a heap of black and unctuous carbon. The pelvic region had disappeared. At the part where the former corpse lay across the latter, the clothes were strongly adherent to the remains of the bodies, in consequence of the slowness of the combustion. In the different layers of charcoal which were interposed, it was easy to recognize the character of the gar-

ments. The right lung and the liver could be recognized. They had lost about half their size; their surface was hard, varnished, and brittle; when cut, their consistence was that of soft cheese; but the texture of the liver was closer and more homogeneous than that of the lung. The vertebral column and ribs consisted of a more compact carbon than that which was formed by the soft parts. About an inch and a half from the hearth was an entire and sooty head. The prominence of the nose and the orbital cavities were still marked. This bony box was broken by the slightest shock, and in the middle of its cavity, resting on the foramen magnum, was the dried brain, about the size of a hen's egg. Of the superior extremities of these two corpses, a few inches of one calcined humerus, and three united and calcined metacarpal bones, only were found. Allowance being made for those parts which had undergone slight alteration with respect to their weight—*i. e.* the legs and feet—the weight of the cinders of both bodies, produced by the combustion, was calculated not to exceed four pounds. The time which the combustion may have occupied could not have exceeded fourteen hours. These remains, lying upon a pavement covered by a greasy and stinking liquid, were surrounded by various pieces of furniture, &c. At the feet, the parts most distant from the fire, was a table unburnt. The heads lay towards the hearth, in which there was no fire: a fender and hand-iron had fallen beneath the woman; and between her head and that of her husband was a brand, still burning. On the right was only a wooden shoe; on the left was a chair, one foot, four bars, and the straw cushion, which had been partially burned. There was also a bee-hive, reduced to a cinder. A few inches above the bodies was a besom made of rush, which was scarcely singed on one side, and some matches, the sulphurous end of which projected beyond a sabot which contained them.—*Journal des Connaissances Médico-Chirurgicales, Septembre 1836; and Brit. and For. Med. Rev.*

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

April 6, 1837.

- William Griffiths Jones, Swansea.
- John Arkwright, Clitheroe.
- Francis Falconer Thompson, Worcester.
- Robert Richard World, London.
- Robert Anwyl, Bala, N. W.
- Jordan Roche Lynch, York.
- John Martin, Boyle.
- John Baker, Birmingham.
- Michael Christmas Bartlett.
- Thomas Hayland, Metheringham.
- William Seagrave.
- John Bowhill, Edinburgh.

LITHOTRITY.

MR. LEE will give two public Demonstrations on Lithotrity and the Bi-lateral Operation, on Tuesday and Wednesday, the 11th and 12th inst., at half-past twelve, in the Theatre of Anatomy and Medicine, adjoining St. George's Hospital.
[This is an advertisement, and ought to have been sent to the publishers as such.—ED. GAZ.]

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Apr. 4, 1837.

Abscess	1	Bowels & Stomach	1
Age and Debility	58	Brain	4
Apoplexy	8	Lungs and Pleura	11
Asthma	33	Influenza	3
Cancer	3	Insanity	3
Childbirth	4	Liver, diseased	6
Consumption	72	Measles	8
Convulsions	24	Mortification	1
Dentition or Teething	2	Paralysis	2
Dropsy	10	Small-pox	1
Dropsy in the Brain	14	Sore Throat and	
Fever, Scarlet	2	Quinsey	3
Fever, Typhus	1	Spasms	2
Gout	1	Thrush	2
Hæmorrhage	2	Unknown Causes	9
Heart, diseased	2		
Hooping Cough	15	Casualties	5
Inflammation	27		
Increase of Burials, as compared with } the preceding week }			

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

March.	THERMOMETER.	BAROMETER.
Thursday . 23	from 19 to 39	29·68 to 29·66
Friday . . 24	15 33	29·65 29·75
Saturday . 25	23 41	29·74 Stat.
Sunday . . 26	34 45	29·75 29·71
Monday . . 27	15 40	29·89 29·92
Tuesday . . 28	27 47	29·89 29·82
Wednesday 29	31 52	29·68 29·65

Winds, S.W. and W. by N.
Except the 24th, 25th, and 27th, generally cloudy; snow in the evening of the 26th, accompanied with hail; rain at times on the 29th.

Thursday . 30	from 29 to 47	29·65 to 29·73
Friday . . 31	16 45	29·80 29·85
April.		
Saturday . 1	21 51	29·84 29·83
Sunday . . 2	20 47	29·83 29·71
Monday . . 3	29 49	29·47 29·45
Tuesday . 4	24 46	29·51 29·62
Wednesday 5	28 46	29·72 29·83

Prevailing wind, W. by S.
Except the 4th and 5th, generally clear; a little rain on the 3d inst.
Rain fallen, ·1675 of an inch.
CHARLES HENRY ADAMS.

NOTICE.

LECTURES ON FORENSIC MEDICINE.—
The Lectures on Forensic Medicine are unavoidably interrupted, owing to the illness of Dr. Cummin.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, APRIL 15, 1837.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE X.

Abdominal aneurism—Effect of posture on the bruit de soufflet—Limitation of this sound to one spot in aneurism—Its extension in mere nervous affections—Letter from Dr. Corrigan on the subject—Case of diabetes—Discovery of casein in the urine—Different varieties of diabetes.

I SHALL draw your attention to-day to the consideration of some cases which occurred before the commencement of the present session, that is, during the months of August, September, and October, and which were attended with circumstances of peculiar interest.

The first of these cases was one of *aneurism of the abdominal aorta*, a disease which has been studied with much care and attention within the last few years. It is unnecessary for me to enter here into any detail of the symptoms and morbid phenomena which characterize this affection; you will find sufficiently ample accounts of them in various works of pathology; the chief symptoms you will find briefly but accurately given in Dr. Cowan's excellent "*Bedside Manual of Physical Diagnosis*." Ten or twelve years ago the diagnosis of this disease was extremely obscure and imperfect, and an aneurism of the abdominal aorta was rarely detected in its incipient, or even in its advanced stage, when it did not present the phenomena of a large pulsating tumor, the existence and nature of which could be scarcely passed

over even by the most superficial observer. In the commencement, when the aneurismal tumor was small, and did not manifest itself by any external pulsation, or even when it was of considerable size, but happened to be protected from an examination by its situation, connexions, &c. it not unfrequently remained undiscovered during the patient's life-time, and was detected only on dissection. A very remarkable case of this description has been recorded by Dr. Beatty, in the 5th vol. of the *Dublin Hospital Reports*. The patient was a relative of my own, and I had frequent opportunities of studying his case. I did not see him in the commencement of his illness, but I afterwards accompanied him to London and Paris, where he had the advice of the most eminent professional men. He died about two years afterwards, and it was only on dissection that the nature of his disease was discovered. The case was subsequently published by Dr. Beatty, chiefly from the gentleman's own notes, and excited a great deal of attention in London and Paris, as well as here. I mention these facts to show you that it is only very recently that aneurism of the abdominal aorta has been studied properly. I feel perfectly convinced that an error in diagnosis of this description would not be committed at present, and that with the light which we now possess, the disease would have been speedily recognized. You will find the case in the 5th vol. of the *Dublin Hospital Reports*, and it is well worthy of your attentive perusal.

I do not intend to enter into any general considerations on the subject of aneurism of the abdominal aorta; I shall confine myself at present to the examination of a single point of diagnosis on which Dr. Corrigan has published some observations in a recent number of the *Dublin Medical Journal*. With the view of illustrating this matter more fully, I shall read for you the notes of the following case.

Michael Whelan, a gardener, aged 40,

was admitted into the Meath Hospital on the 19th August, 1836. He had no remarkable illness, except an attack of venereal about nine months previously, for which he was salivated and cured. His health continued as good as usual, until about five months before admission, when he was attacked with pain in the stomach and bowels, and occasionally in the back and right hypochondrium. About six weeks before admission this pain became constant, and was accompanied with epigastric tenderness, nausea, and vomiting. For these symptoms he was admitted into Sir P. Dun's Hospital, where he had leeches, sinapisms, and blisters to the epigastrium and right hypochondrium, and internally, turpentine, with castor-oil, but without any benefit whatever, and he left the hospital pretty much in the state he entered it, about four days before he was received at the Meath. His symptoms on admission were pain and tenderness on pressure over the epigastrium, pains shooting through the whole abdomen, no tumor or hardness discoverable, anorexia, nausea, with occasional vomiting. Tongue clean, bowels free, no thirst. He complained of loss of sleep, his spirits were dejected, and there was more or less emaciation; pulse 102, full and regular; action of the heart normal. He stated that he generally obtained transient relief from the abdominal pains by taking a draught of warm water.

From the history of this case, and the consideration of the patient's symptoms, we were led to conclude that it was a case of dyspepsia. You perceive he had many of the symptoms which characterize derangement of the digestive system, as anorexia, nausea, with occasional vomiting, epigastric tenderness, pain, and emaciation; and in addition to these, there was no tumor or hardness present which would lead us to infer the existence of organic disease. We therefore had recourse to the usual remedies employed on such occasions. We ordered a large enema of warm water and oil to be thrown up the rectum with the aid of Read's syringe. This treatment is generally employed on such occasions, whether the patient reports his bowels costive or not, for we have frequently observed, that after using enemata in this way, once or twice daily, for three or four days, many of the usual phenomena of indigestion, as pain, nausea, irregularity of bowels, and abdominal tenderness, are greatly relieved, or disappear altogether. We also applied leeches to the epigastrium, and prescribed hydrocyanic acid to be taken in doses of two drops three times a day. Under this treatment, assisted by a carefully-regulated diet, the patient seemed to improve at first, and experienced some relief of many of his

distressing sensations. His pulse fell to 84, and subsequently to 76, and the vomiting ceased; but the pain in the epigastric and umbilical regions continued to recur at intervals, sometimes depriving him of sleep, and at the time when we expected a favourable result from our treatment, he would suddenly, and without any apparent cause, become as bad as ever. On the 24th, Mr. Harnet, a pupil in this hospital, noticed a feeble and indistinct pulsation in the epigastric region, and on applying the stethoscope over this part, a distinct bruit de soufflet was heard, which diminished in intensity as the instrument was carried downwards, ceasing altogether at the umbilicus. Under these circumstances, I requested my friend Dr. Corrigan to examine the patient, which he subsequently did, and gave the diagnosis of aneurism of the abdominal aorta. He found the bruit very distinct when the patient was in the recumbent position, but it nearly ceased when he sat up or stood erect. By elevating the pelvis and depressing the shoulders, a *frémissement* was felt once or twice, when deep pressure was made in the immediate neighbourhood of the place where the bruit was heard.

The man continued to suffer in various ways during the time he remained in hospital. Sometimes he was quite free from pain, had a tolerable appetite, and improved in his looks and spirits. At other times he had severe attacks of pain in the stomach, accompanied with nausea, and severe pain in the spine about the termination of the dorsal vertebræ. When the pain in his stomach was severe, the pain in the back was generally relieved. These pains frequently affected him during the day, but the most usual as well as the severest paroxysms occurred at night. He suffered some inconvenience and sense of weight and fulness after eating, but this was by no means a prominent symptom. He also had occasional fits of emesis, and generally felt more or less relief after vomiting. Towards the latter period of his illness, the paroxysms of pain became more frequent and severe, and lasted for a longer period. On the 16th and 17th he had acute pain in his back and stomach, accompanied with nausea. On the 18th he was seized with violent pains while eating his dinner, and expired about half past five in the afternoon.

His body was examined by Mr. Porter 18 hours after death. On opening the abdomen an aneurism of the abdominal aorta, immediately below the celiac plexus, was discovered. It was evidently a true aneurism, and originated in a dilatation of the coats of the vessel without rupture, for the lining membrane of the artery was continued into the aneurismal sac, from which

also several branches were given off. The edge of the aperture, through which the blood escaped into the cavity of the abdomen, was very thin, and presented a fringed appearance. There was an immense quantity of coagulated blood effused, which adhered firmly to the sac, and also to the kidney. The aneurismal sac was about the size of a hen's egg, or a little larger. The external iliac arteries were diminished in size.

Some time after this case had been examined by Dr. Corrigan, he favoured me with the following communication :—

"My dear Doctor,—I thank you for your kindness in having given me an opportunity of seeing the case of Whelan, who died in your hospital of aneurism of the abdominal aorta. You have expressed a wish that I should explain on what grounds I gave the diagnosis of aneurism which chanced to turn out correct. On the symptoms I have nothing to observe; they simulated, as well as I can recollect, the ordinary symptoms of chronic gastro-enteritis.

"The opinion which I gave was altogether founded on the physical signs, viz. the permanent existence of bruit de soufflet, the remarkable increase of the sound by change of position, and the limitation of the sound (when thus increased) to a particular spot.

"The bruit de soufflet was heard a little below and to the left side of the ensiform cartilage; it was indistinct when the patient stood up or sat erect, but when he was made to lie in a perfectly horizontal position, the sound became very loud, and with the increase of loudness it became the more evident that it was quite circumscribed, and that it did not extend downwards along the aorta. This case made the third of abdominal aneurism which I have seen at so early a period of the disease, and in the Dublin Medical Journal for January 1833, where I have related the two previous cases, I have endeavoured to explain the principle on which I have used change of position as a means of rendering distinct a bruit de soufflet which might otherwise escape detection. While a patient with aneurism of the abdominal aorta sits or stands erect, the column of blood in the descending aorta is exerting a considerable hydrostatic pressure upon the sides of the aneurism, which, even in the intervals of the heart's contractions, is sufficient to keep the aneurism very tense. The sides of the aneurism thus kept tense cannot thrill or vibrate, and hence there is little or no bruit de soufflet, but when the patient is placed in a horizontal position the aneurism is relieved of the hydrostatic pressure, and being no longer constantly

acted upon by a force which would keep it very tense, its sides are more at liberty to vibrate, each new rush of blood gives to the now comparatively flaccid sides of the aneurism a thrilling vibration, and the bruit de soufflet becomes proportionally loud. In the latter pages of the article on Bruit de Soufflet, which I have sent for insertion in the November No. of the Dublin Journal, I have endeavoured to explain the rule which regulates the connexion between aneurism and bruit de soufflet.

"There are cases of bruit de soufflet in the abdominal aorta, in which the sound arises from nervous irritation or other causes, and which sometimes simulate aneurism; but in all such cases which have come under my own observation, it could be perceived that the bruit de soufflet extended along a considerable portion of the aorta, and in most of the cases the vessel could be traced of its natural size. Laennec, you remember, has already made a similar observation. '*Le stéthoscope me donnait la sensation de la forme et des dimensions de l'artère, dont le calibre semblait tout à-fait-égal, et de grandeur naturelle,*' &c.

"It remains of course for further observation to confirm or correct the principle on which change of position was used to assist in forming the diagnosis. Excuse me for trespassing on your patience with this long letter, and

"Believe me, my dear Doctor,

"Your's sincerely,

"D. J. CORRIGAN."

You perceive, then, that Dr. Corrigan dwells on the circumstance of bruit de soufflet being heard louder in the horizontal position, not because he thinks it a diagnostic of aneurism of the abdominal aorta, but because a knowledge of this fact leads us to the discovery of bruit de soufflet in cases where otherwise it would be very likely to escape observation. Thus, according to his views, it will not be sufficient, in a case of suspected abdominal aneurism, to examine the patient standing, or in the erect position; you must place him in the horizontal position, in order to hear the bruit distinctly, and if you depress the shoulders, and elevate the pelvis, so as to diminish still farther the hydrostatic pressure, you will render the sound still more distinctly audible. When Dr. Corrigan first published his views, I fell into the error of supposing that he intended to put this forward as a diagnostic mark between aneurism of the abdominal aorta and diseases which simulate it. This, however, is not the case; Dr. Corrigan's meaning is, that the change of position will enable you

to discover a bruit de soufflet, which, under other circumstances, could not be detected. He afterwards proceeds, as you may have observed, to distinguish the bruit de soufflet of aneurism from that which accompanies other affections, and his chief diagnostic is the limitation of the bruit de soufflet to a particular spot of the track of the artery. In cases of nervous irritation, accompanied with bruit de soufflet, you hear the bellows murmur all along the course of the vessel, but in the bruit de soufflet of aneurism, the murmur is confined to a certain spot, and becomes more indistinct the farther you remove the end of the stethoscope from the place where it is situated. I would refer you for farther information on this point to Dr. Corrigan's paper on Bruit de Soufflet, in the Dublin Journal for November 1836, where you will find enumerated all the causes which Dr. Corrigan looks upon as capable of giving rise to this peculiar variety of sound.

Shortly after Whelan's death, another case offered itself to our notice, which promised to throw some further light on the subject of aneurism of the abdominal aorta. A woman named Sarah Smith, aged 48, was admitted into the Meath Hospital on the 23d of September, 1836. She stated that she had been ill for three months, and complained of headache, pain and weakness of the loins, loss of strength, and palpitations of the heart. Her appetite was impaired, her stomach irritable, and for a considerable length of time she had been subject to attacks of vomiting, in which she threw up large quantities of sour fluid. Her bowels were habitually costive, and consequently required the stimulus of purgatives. She had frequent rigors, followed by heat of skin and perspirations, which sometimes attacked her two or three times a day. The pain in the head was chiefly confined to the occipital and mastoid regions: she had some tenderness on pressure in this situation, but no appearance of swelling. She complained of slight cough, aggravating the headache, but on examining the chest no morbid sound could be discovered, and the action of the heart appeared healthy and normal. The abdomen was soft and natural, but on applying the stethoscope over the epigastric region, a loud distinct bruit de soufflet was heard when the patient lay in the horizontal position; this sound became altogether indistinct when she stood or sat erect. Owing to the emaciated state of the patient, and the thinness of the abdominal parietes, the aorta could be felt quite plainly throughout nearly its entire course. It appeared to run rather tortuously, but no evidence of any kind of dilatation could be discovered. The patient had no pain

in the epigastric region, but had constantly suffered from a sense of tightness in this situation. She complained, however, of constant pain in the spine, about the upper part of the lumbar region. The catamenia had ceased, and she was subject to a leucorrhœal affection of some years' standing. Her tongue was clean, her appetite bad, bowels confined, no remarkable thirst or nausea. Pulse 76, weak, but regular.

Her bowels were kept open with rhubarb and magnesia, and subsequently with pil. aloes cum asafœtida, and her diet properly regulated. Under this treatment she improved rapidly, and left the hospital greatly relieved on the 5th of October. In this case, the bruit de soufflet was nearly, or altogether permanent; for it could be heard still at the period when the woman left the hospital. It extended along the track of the vessel, and depended, most probably, not on aneurism, but on nervous irritability combined with dyspepsia. The woman was greatly emaciated, and we could feel the artery distinctly for nearly its entire course, but could not detect any thing like an aneurismal tumor. I may observe also, that in this case a phenomenon was observed, which was also noticed in the case of Whelan. Mr. Dillon observed that when the woman lay on her face, the bruit de soufflet could be heard on the left side of the spinal column, but not on the right.

From a consideration of this case, you will perceive that *change of position, as employed by Dr. Corrigan, is applicable not only to cases of bruit de soufflet connected with actual disease of the aorta, but also to cases in which the bellows murmur depends on nervous irritation.* When this woman stood or sat up, no morbid sound could be heard; but when she lay in the horizontal position, a loud and distinct bruit de soufflet was heard along the track of the artery. The same observation will apply to hysterical bruit de soufflet, which is increased in the horizontal, and diminished in the erect position; and the very same arguments which Dr. Corrigan has used to explain this sign in aneurism of the abdominal aorta, will apply to other cases in which there is bruit de soufflet without aneurism.

Having made these observations, I shall proceed to direct your attention to a very remarkable case of *diabetes*, now under treatment in the chronic ward. When the patient was admitted, he complained merely of emaciation, weakness, and thirst; and as we could not find any thing to account for the last symptom, I requested the gentleman who had charge of the case to attend carefully to the state of the urinary secretion, as I suspected it was a case of diabetes, which afterwards turned

out to be the fact. On examining the urine shortly after his admission, no urea could be found in it; within the last two days, it has been analysed with great care by Dr. Aldridge, and he informs me that at present it contains a considerable quantity of urea. You perceive, then, that the result of our treatment has been favourable; the urea which had disappeared while the disease had existed in a more intense state, is now beginning to return. Dr. Aldridge has not been able to discover any sugar in this man's urine, but he has found in it a peculiar animal matter, the existence of which in the urinary secretion is worthy of attentive consideration, and presents some points of great physiological interest. I may observe, that some time before Dr. Aldridge made his analysis, it was reported to me that the man's urine was albuminous, a fact which did not at all surprise me, as the presence of albumen has been frequently observed in the urine of dropsical and diabetic patients, and it has been observed that in some cases of *diabetis mellitus*, the sugar became replaced by albumen in proportion as the disease declined, and that this process went on for some time after the diabetic symptoms continued to diminish in intensity. But in the present instance, Dr. Aldridge has discovered that the animal matter contained in our patient's urine is not albumen, but casein. It may be necessary for the benefit of the younger students to state that *casein* is not precisely analogous to cheese; it is, however, the principle from which cheese is formed, after it has undergone certain chemical alterations, the most important of which appears to be fermentation. Casein, as you will find in your works on chemistry, is in its chemical composition closely allied to albumen; indeed the chemical relation is so very strong, that you might be inclined to say that the difference between them was altogether unimportant, since analysis has failed in detecting any remarkable difference in the ultimate elements of which both are composed. They certainly differ very little in their ultimate principles, but then they differ so much in their properties, that it is to the latter alone we must look in order to draw between them a sufficiently well-marked line of distinction. If we examine casein in reference to its physical properties, we shall find it very different from albumen. Ferment albumen as long as you like, you will not be able to produce any thing like cheese, and if the fermented substance be allowed to mould and putrify, it will not produce mites. Again, casein is not like albumen separated from water and precipitated by boiling, as is well known from the familiar ex-

ample of submitting milk to the boiling process. It is in these and properties of a similar nature, that we discover the difference between casein and albumen.

Now if this discovery of Dr. Aldridge's be confirmed by further investigation and experiment, it will form a very remarkable incident in the history of diabetic urine. It is also interesting in a physiological point of view, to find the animal principle of cheese in the urine of the human male. The only human secretion in which it is met with in any considerable quantity, is the milk of the female, and also occasionally in the urine of pregnant women; a fact noticed by Dr. Cummin, in his able lectures on Forensic Medicine now in course of publication in the LONDON MEDICAL GAZETTE*: casein has been also found in some instances in the male, as an abnormal secretion from the *mammæ*. You are aware that Humboldt has given some instances of this secretion occurring in the male, and with the facts which we have before us, there does not appear much difficulty in admitting the statements of Humboldt, when he says, that he has seen an infant nourished for the space of twelve months with milk secreted by the male breasts. Here, you perceive, we have casein secreted in abundance by the kidneys, and you are all aware that sugar is secreted by the same organs in very remarkable quantities. You perceive, then, we want nothing but the oil to make up a secretion from the kidneys analogous to that formed in the breasts of the female. Now when we recollect the abundance in which oily particles are present in the blood of some dropsical patients, the separation of oil from the blood may be easily conceived to be within the power of the kidneys, and consequently, gentlemen, it is just within the range of possibility that some of the strange tales told about persons passing a milky urine, may be founded on fact.

These facts are extremely curious as connected with the history of secretion. I think Dr. Aldridge's discovery is likely to throw some additional light on the nature of diabetic urine, and I am happy to find that a new path of investigation has been struck out by a gentleman who has been for a long time a diligent and talented pupil of this hospital.

Before I close this lecture, I shall run briefly over the principal varieties of diabetes. In the first place, then, we have the diabetes insipidus, in which there is merely an increase in the quantity of the urine, without any secretion of sugar, &c. We had some time ago a very remarkable example of this form of the disease in one

* Vide Lecture XIV. vol. xix. p. 482.

of the porters of Stephen's Green. This man passed generally from twelve to fourteen pints of urine in the day. He was treated with Dover's powder and vapour baths, and is at present in the enjoyment of good health, although the disease had continued for many months. He still requires, however, the exercise of much caution, for any imprudent exposure to cold, or irregularity of diet, renders him liable to relapse. The next form is that termed diabetes mellitus, and is remarkable for the quantity of sugar contained in the urine. Then we have the diabetes ureosus, characterized by the existence of a large quantity of urea in the renal secretion, and by the greater specific gravity of the urine. Next we have the diabetes albuminosus, in which albumen is found to exist in the urine; and lastly, (should Dr. Aldridge's observation turn out to be correct,) we shall have to add another species, or the diabetes caseosus. It remains however, for further investigations to decide what peculiar modifications of treatment are to be made in those various forms of diabetes. At present we are not quite *au fait* as to the treatment adapted to each particular species of diabetes, and much remains to be discovered in a field presenting extensive room for speculation and inquiry.

ON PARALYTIC AND PAINFUL NERVOUS AFFECTIONS.

To the Editor of the Medical Gazette.

SIR,

THE following cases have come under my observation, showing the effects of galvanism and muscular action, or gymnastic exercise, in some painful affections of the nerves and irritable conditions of the muscles: should you consider them of sufficient practical importance, your insertion of them in the GAZETTE will oblige

Yours most respectfully,

JOHN GRANTHAM.

Crayford, Kent, March 27, 1837.

In prefacing those cases which relate to block-printers, it may be well to state briefly the nature of their employment. It consists in a man standing between a table spread with cloth and a tub of colour, with a woollen sieve floating on its surface, placed about the height of the table. The man, with his right hand, grasps the upper part of a square block of wood with the thumb and

middle finger, by means of two holes, made four inches apart. The under surface of the block has the figure of a pattern on it. These blocks sometimes exceed fourteen inches square. The man has to dip the block into the sieve, in such a manner that the surface be equally charged with the colouring matter. Resting on his right leg he leans towards the table, and after placing the block on the cloth, the colour is conveyed into it by means of two or three knocks with a heavy mallet held in the left hand. From the foregoing statement, it will appear that the muscles of the left arm, hand, and leg, are more constantly put into the action of extension and contraction than the right arm and leg.

CASE I.—*Partial loss of power in right Hand and Fore-arm, cured chiefly by exercise.*

Robert W——, block-printer, aged 39 years, of middle stature, sanguineous temperament, complained of inability to dip the block into the sieve. When brought within two inches of the sieve it fell from his hand. On examining the right radial pulse I found it slower than the left; the animal heat was also less on that side. Depression of spirits; tongue coated with a white fur; torpor of the bowels; urine scanty and high coloured, rather offensive. He was relieved by alkaline and aromatic aperients, and the use of the warm bath. This attack occurred in April 1836. On the 15th of July, 1836, he again complained of the same inability in the right hand and arm, with similar functional derangement. In both instances he had been working over-time in the day, thereby causing fatigue. On this occasion he complained of a dull pain along the distribution of the median nerve. The treatment was the same as before, with this addition, that he was directed to swing with the right hand a weight of several pounds, and to take much walking exercise. After a continuance of this plan for five weeks, he was completely restored, and resumed his employment, feeling stronger in the arm than after the first attack.

CASE II.—*Partial Paralysis of right Forearm cured by Exercise and Galvanism.*

April 1836.—William C——, block-printer, aged 52 years, fair complexion,

middle stature, nervous temperament, complained of acute pain in the course of the median nerve, with loss of power in the pronation of the hand and extension of the arm, also an inability to dip the block into the sieve. As regarded the digestive functions, there was very little derangement, only slight acidity of the stomach, and tendency to relaxation of the bowels. In this case I tried the effect of aperients, stimulating embrocations, warm baths, rest, change of scene, &c., but without any beneficial results; he was still unable to follow his employment. As in Case I., there was irregular action in the arteries of the arms, with loss of organic sensibility in the right arm. Finding the above measures ineffective, I determined on applying the galvanic influence to the right arm, and on exciting general action of the muscles of the arm. This plan I commenced early in July, with a battery of forty single plates, three inches square, each pair connected at the upper part with copper wire, resembling Dr. Wollaston's battery,—the *Couronnes des Tasses* arrangement. The shocks were passed in various directions from the acromion to the carpus every morning; a flannel roller was then applied from the wrist to the shoulder, and during the day he was ordered frequently to swing a six or seven-pound weight in the right hand. This treatment was continued five or six weeks, when the hand and arm were restored to their former usefulness. During the action of the galvanism, the animal heat and sensibility increased daily, until he could hardly bear the shocks,—a result which I consider to be the effect of restored power in the nerve. It may be just to observe, that these affections in printers have been deemed incurable.

CASE III.—*Obstinate Tic Douloureux, cured by Galvanism.*

James Finch, aged 47 years, by trade a tailor, middle stature, dark complexion, spare habit, not given to any excess, a married man, with a family, was, in the summer of 1829, attacked with symptoms of tic douloureux, the right facial nerve being the one affected, attended with involuntary contraction of the temporal, pterygoid, buccinator, and levator anguli oris, muscles. These paroxysms returned at intervals with increasing severity, sometimes lasting fourteen days without intermission.

In the spring of 1835, after having removed every decayed tooth on the right side, I put him under a course of mercury, which salivated him freely. This appeared to be attended with great benefit, and he enjoyed an interval of three months' absence from pain. It again returned, however, and I then gave him arsenical drops until a garlic taste was felt in the throat, but without any benefit. We next tried a vegetable diet, which he considered of service to him, after which he took iodine and then drastic aperients (croton oil), which, however, were ineffective. The carbonate of iron, in large doses, was next administered, which relieved him for nearly three months. The paroxysms of pain returned again with the most horrid severity. On examining the remaining teeth, I observed that the second molar had a slight discoloration near the neck, but without pain; it was removed, and the paroxysms of pain gradually subsided the second day afterwards. Once more he remained well for thirteen or fourteen weeks, when another attack came on. I then gave him the carbonate of iron, at the same time applying galvanism to the head, face, and neck, by means of a battery of 24 pair of plates, six inches square, put together after the manner of Cruikshanks. This plan I adopted for two months, and again he appeared to be cured. Nevertheless the pain returned, with, if possible, greater violence than ever. I next proposed his walking from fifteen to twenty miles daily. This plan used to relieve him during the exercise, but immediately after he sat down slight pains came on. In the beginning of July 1836, he suffered to such an extent that (to use his own expression) "death would be preferable to life." I then tried the galvanic battery of 40 single plates, which I had constructed after the manner of Dr. Wollaston, described in the second case. Shocks were passed from the back part of the head, both sides of the face, down the neck, in the direction of every principal nerve, but more generally from the region of the parotid gland to the exit of the inferior maxillary nerve near the chin. The shocks from this battery were very severe—so powerful, indeed, that few could have borne them. Where the shilling which communicated with the wire touched the skin, it caused excoriation of

the cuticle, till at last the pain of the shocks exceeded in severity the pain of *tic douloureux*, especially over the region of the parotid gland. During this process, he took carbonate of soda twice a day, in two-drachm doses.

September 12th, 1836, he felt better than ever he had done; since which time he has remained well, being enabled to wash his face with cold water, which he has not done before for the last three years.

The above cases are examples of the theory that the action of the nerve is necessary to determine the action of the muscle, and that loss or impaired action of either nerve or muscle, is generally productive of painful nervous sensations. Irritability is bestowed upon all muscular parts, but in different degrees. The nerves exert their influence on the muscles, as remote and exciting causes of their action, but by no means as the proximate cause, which is the inherent irritability of the muscle. In Dr. W. Philip's paper, published in the *GAZETTE* for the 18th of March, referring to muscular action, he observes—"The healthy action of which is not a state of uniform contraction, but of a constant and generally rapid succession of contractions and relaxations; and, again, the permanent contraction is always a state of disease. It is followed, unless of very temporary duration, by a sensible exhaustion of excitability." And from the experiments of the same writer, the accuracy of Haller's opinion is demonstrated,—that the power of the muscular fibre is not derived from the nervous system, but resides in the fibre itself. The second and third cases confirm the assertion of Aldini, the nephew of Galvani, that a proper animal electricity is inherent in the body, which does not require the assistance of any external agent for its development; and from the experiments of many authors (Sir B. Brodie, Dr. Philip, &c.), it appears that the galvanic energy is capable of supplying the place of nervous influence.

In the first and second cases the muscles were extended by their antagonists, consequently those organs were left in a passive state, being momentarily deserted by their contractility; or rather, they possessed it in a less active state.

In Bichat's work on general ana-

tomy, where it relates to sympathies in muscular structures, he observes, "I am conscious there are very acute pains unattended with sympathetic convulsive motions; but convulsive motions of this nature are seldom observed without the organ which is the source of sympathy being considerably affected, and the focus of animal sensibility."

In conclusion I would revert to the fact, that few changes take place in the fibrous structure of the muscles, considering how variously they are affected—none, I believe, except density, cohesion, and hue. The muscular system very rarely suppurates, inflammation generally terminating by resolution.

CHEMICAL ANALYSIS OF CALAMINE.

To the Editor of the Medical Gazette.

SIR,

WHILST examining some of the powder sold in the shops under the name of calamine, I was surprised to find that any of the mineral acids dissolved out only a very small proportion; this was the case even with nitro-hydrochloric acid, a heavy white powder always remaining after the action of the diluted acid assisted by heat (1.) I therefore took some of the powder in question, and boiled it for half an hour in hydrochloric acid, diluted with an equal bulk of water, taking care that the acid fluid should be in excess. A white, finely-divided, and very heavy powder, remained unacted upon. The whole was then thrown upon a filter, and the insoluble residue well washed with distilled water, until the wash fluid ceased to be acid. The powder which remained on the filter was allowed to dry, and then examined; it was altogether insoluble in dilute sulphuric, nitric, or hydrochloric acid.

a. A portion was boiled for some time in a considerable quantity of water, the whole filtered, and the aqueous fluid divided into two portions. To one a solution of chloride of barium was added, without producing any alteration; to the other oxalate of ammonia, without producing any change. The powder, therefore, did not contain any sulphate of lime.

b. The powder which had been acted upon by distilled water was then boiled for a considerable time with a strong solution of pure carbonate of soda; the whole was then thrown upon a filter; the filtered fluid was then supersaturated with nitric acid considerably diluted. The addition of a solution of chloride of barium to this fluid caused an abundant precipitate.

c. The powder remaining on the filter was boiled with an excess of diluted hydrochloric acid, and filtered. The resulting fluid was abundantly precipitated by diluted sulphuric acid and the soluble sulphates. The powder, then, was sulphate of baryta; and as it was not altered in colour by hydrosulphuret of ammonia, it contained no salt of lead.

d. The acid solution (1.) struck a deep blue colour with the ferro-cyanide of potassium, and yielded a white but scanty precipitate with sulphate of magnesia after some time. This precipitate, when collected on a filter and washed, was blackened by hydrosulphuret of ammonia.

Ammonia, when added in excess to the acid fluid, caused a brown precipitate. This precipitate was well washed with water, and then digested in a solution of caustic potass. The whole was filtered, and the alkaline fluid mixed with a solution of muriate of ammonia: no change, however, took place although much ammonia was evolved.

e. The ammoniacal fluid, when separated from the brown-coloured precipitate, was mixed with hydrosulphuret of ammonia: a slight opalescence was tardily produced. Another portion of the same ammoniacal fluid was treated with oxalate of ammonia: an abundant precipitate ensued.

From these experiments it would appear that the hydrochloric acid solution contained iron, as shewn by experiment *d.* The absence of any alumina was also shewn by the same experiment, and the presence of lead.

The existence of lime, and the probable presence of traces of zinc, were shewn by experiment *e.*

Manganese did not appear to be present; for when a portion of the original powder was subjected to the blow-pipe flame with carbonate of soda, no green colour (so characteristic of manganese

even in the smallest quantities) was obtained.

The powder, when acted upon in the first instance by hydrochloric acid, evolved sulphuretted hydrogen.

I next ascertained the quantity of sulphate of barytes in six different specimens of the powder called calamine, with the following results:—

Specimens.

1. Sulphate of barytes, 83· in 100 parts.	
2. 78·	
3. 87·5	
4. 85·	
5. 81·	
6. 85·	

The other ingredients did not appear to differ materially in quantity in the different specimens, as far as could be judged by a qualitative analysis.

The following may be looked upon as the constituents of the powder of the shops called calamine:—

Sulphate of barytes!

Oxide of iron.

Carbonate of lime.

Lead (probably sulphuret.)

Zinc? (mere traces.)

Should the above experiments appear of sufficient interest, you will perhaps give them a place in your journal.

I am, sir,

Your obedient servant,

R. H. BRETT,

F.L.S., M.R.C.S., &c.

1, Upper Sussex Place,
Old Kent Road, April 8, 1837.

ON THE
INFLUENCE OF GRAVITY
ON THE
CIRCULATION OF THE BLOOD.

To the Editor of the Medical Gazette.

SIR,

THE circulation through all parts of the body is unquestionably affected, and that very materially, by the influence of the gravity of the blood, but in different degrees, according to their situations and positions; and, as a general truth, we may assert, that whenever the venous circulation is favoured by the gravity of the blood under ordinary circumstances, congestion will be apt to take place from any change of the accu-

tomed position. The reason of this is, that such veins have but little contractile power to aid in propelling their contents; indeed, the veins of the head and neck are nearly passive tubes; and hence they become easily distended whenever the current of blood is not favoured by gravity.

Is it not very probable that the less free return of the venous blood from the head, when we lie down, may have something to do in the phenomena of sleep; and is it not, in part at least, this cause which keeps up the desire for sleep beyond the requisite period of repose, so that the longer we remain in bed, the longer still we wish to remain?

Whenever the upright posture is changed for another—say the horizontal—the circulation is very perceptibly affected; the veins of the neck become swollen and livid, the carotids and temporal arteries pulsate with greater force, and headache and confusion of thought are often induced.

These occurrences are still more rapidly and strikingly developed if the head is lower than the rest of the body,—as, for instance, by sleeping without a pillow, which is frequently the case among the lower class of people. This circumstance it was which first drew my attention to the subject; and I can bear testimony to numerous instances of severe cephalic disorders emanating from this cause, as well as to many illnesses protracted from want of due regard to this apparently trifling circumstance. I have not unfrequently observed, in elderly patients who have been long confined in bed from whatever cause, a set of nervous and cerebral symptoms supervene, and resist every means of relief which can be devised;—the perceptive and intellectual faculties become dull and inactive, and a state of torpor and apathy, of greater or less degree, supervenes.

On dissection of such cases, we usually discover some degree of encephalic congestion, and perhaps a trifling effusion within the ventricles.

I deem it not at all improbable that the true source and origin of the mischief is in the altered state of the cephalic circulation, in consequence of the more frequent and longer continued decubitus in the horizontal position. Where patients are confined to bed by fever, &c., great benefit will be found

from an apparatus placed under the pillow to regulate the elevation of the head at pleasure. It is with the head as with other parts of the body, when they are kept for a length of time in a depending posture. In the chest, the stasis of the blood is always more considerable in those parts of the respiratory organs which are the lowest; and it has often been remarked, that pneumonia, especially when it attacks those who have been long bed-ridden, very generally affects the back part of the lungs.

Perhaps some curious and interesting results might be obtained by endeavouring to ascertain the comparative frequency of pneumonia on the left and on the right side, and of engorgement of the liver and of the spleen, in relation to the ordinary position of the patients. It is quite possible that the blood may acquire a tendency to accumulate in particular organs, on that side which the person usually assumes while asleep.

The mere confinement to bed appears often to bring on cough and pectoral symptoms, among old and infirm patients; which symptoms are irremediable as long as the patients remain in the horizontal position.

If the hand has been long hanging by the side, especially when it is warm, the veins become full and distended—every minute ramification can be traced, and the whole volume of the soft parts is generally increased: by merely raising the hand and arm, and keeping it for some time in that position, all these appearances vanish, and the member resumes its wonted condition: hence it is one of the best examples of the influence of mere gravity on sanguiferous accumulation.

In the case of the lower limbs, the movements are much more limited; and their position is almost always unfavourable, except during sleep, to the return of the venous blood. Whether we are walking, standing, or sitting, the blood has to rise against the force of gravity.

Every obstetrical practitioner knows, that it is of paramount importance to enjoin a reclining posture in all affections of the female internal organs of generation.—I am, sir,

Your obedient servant,

F. R. MOSELEY, M.R.C.S.

Lincoln's-Inn Fields,
April 11, 1837.

ACCOUNT OF A VISIT

TO THE

UNIVERSITY OF GOETTINGEN.

—M. BLUMENBACH, &c.

To the Editor of the Medical Gazette.

SIR,

I ARRIVED at Göttingen about the middle of last October, at the period the students were beginning to assemble. The town is small, situated on the high road between Capel and Hanover, about thirty miles from the Hartz mountains. The streets are regular and clean, having a well-laid pavement on either side. The ramparts surrounding the town form a very agreeable promenade, being planted with trees, from whence there is an extensive prospect over the neighbouring plains and distant hills. The number of students entered this year for the different courses amounted to 850, being much less than in former years, when they were nearly 2000. They are by far more quiet than those usually met with in other university towns of Germany, more polite to strangers, and better conducted. They are completely under the surveillance of the police, several gend'armes being constantly on guard in different quarters, and even smoking in the streets is very strictly prohibited, under pain of heavy fines. As there are no public dwellings for the students connected with the university, they are consequently obliged to reside in the different private houses of the town, according to their respective means; and there is a public officer attached to the university, whose duty it is to have an accurate knowledge of the various lodgings to be let, and the rent usually demanded, and to this person the students are requested to apply for any information they may require. This university differs from Heidelberg, Leipsic, Bonn, or Berlin, from its having no public buildings or theatres, where the lectures might be delivered; and this proves a very material inconvenience, as the students are therefore constantly obliged to repair from one part of the town to another, wherever the respective lectures may be given; and in each professor's house an apartment is fitted up with desks and benches suited to the number of pupils who usually attend, and each student has a number given him, according to priority of application, which corresponds with the number marked on the benches, con-

sequently every one has always the same seat, which prevents confusion and interruption. It would be well if such a rule was adopted in this country. Each lecture only continues fifty minutes, ten being allowed for the students to pass from one professor to another. The usual plan is for each professor to publish a compendium, or "*handbuch*" as it is called, divided into separate chapters and sections, for the sake of convenience, containing all the different subjects, with a short explanation. Each student is obliged to purchase one, from whence the professor derives considerable emolument. In lecturing, the professor reads over a certain section, adding such observations as may either explain or confirm the proposition or subject before them, which the students most carefully note down.

The professor of chemistry is M. Wöhler, who has lately succeeded to the chair so ably filled by Stromeyer. I was furnished with a letter of introduction to him from the late lamented professor of chemistry of University College, London, and found him particularly civil. He immediately gave me a number for his lecture, which commences every morning at nine. His class consisted of fifty, and his experiments were unusually successful.

It is rather difficult for a beginner to understand the German chemical terms, as, instead of the Greek derivative, the German compound words are adopted; thus, for instance, instead of saying hydrogen or oxygen gas, terms which are used both by the French and English chemists, the Germans designate them as "*wasserstoffgas*," or "*wauerstoffgas*."

The great lion of this university is Blumenbach, professor of natural history, by whom I was most graciously received, though without any formal introduction; yet I have heard he is not always so courteous. He speaks English fluently, in fact, he is the only professor who appeared to have any knowledge of the language, which surprised me much, considering the intimate connexion that exists between Hanover and our own country. The venerable professor, though he has reached his 82d year, still retains all his faculties perfect; he spoke of the kindness of George the Third, during his visit to England, forty years since, at which period he also went to Oxford. One of his apartments is fitted up as a museum; it is by no means large, but contains rather an odd medley

of preparations, and a numerous collection of skulls of negro tribes, as well as specimens explanatory of comparative anatomy. He called my attention more particularly to a tattooed head of a New Zealand chief, which was presented to him by the Duke of Northumberland, and on which he appeared to set a very high value.

His lecture commences every day, except Saturday, at three; his class did not exceed forty. He stoops considerably, usually wore a shaggy great coat, with a small green velvet cap on his head, his hair hanging in long silvery locks. He was particularly fond of laughing at his own jokes and anecdotes which he mentioned during his lecture, sometimes raising his voice to a stentorian pitch, whilst at others it could scarcely be heard. He could read his notes without the assistance of spectacles, and often explained his subject in terms not quite adapted to "ears polite;" expressing his astonishment or admiration at the wonders of nature in no measured language—making use of a phrase which, though of very unusual occurrence among us, still is very common among the Germans—that of "*Herr Jesus*;" which is, however, only an expletive, and occupies the place of *mon dieu* of the French. He exemplified his subject with preparations either dried or in spirits, as well as by plates and drawings; some of which, from their age and roughness, were very curious.

A specimen he valued much, and which he prized above all others, was the fœtus of a bear in spirits, which is very rarely seen; and it was certainly a most misshapen object, of very diminutive size; it was quite, as the old professor expressed it, an "unlicked cub." Another rather interesting specimen was a young porcupine in spirit, before the quills had commenced growing; in which he pointed out, on the outer side of the scapula, the two mammæ. An ostrich egg, arrived at the full period of incubation, was also curious, where the young bird had half escaped from its shell: it was of large size, and its neck of very considerable length. He always appeared particularly delighted in mentioning any anecdotes connected with occurrences or incidents he had met with in England; thus he used to speak of the size and value of the horses employed in the breweries of London, as well as those bred fortheturf or chase, in terms which no doubt excited the surprise,

and perhaps even the unbelief, of many of his hearers.

On the subject of the turtle, he gave some account of its excellencies with respect to the table, saying that when he was in England he had seen whole courses served up in various forms and dishes, adding, at the same time, that the dessert consisted entirely of turtle, casting an apparently longing eye on the shell before him, as if he still remembered the by-gone repast!!

On the subject of cocks, he gave an account of their fighting in England, exhibiting to his class a pair of steel spurs, as used by them in their battles. Of the flamingo he had never seen a single specimen, though, at one of the Museums at Oxford, he was shewn a dried leg and foot.

Blumenbach's lectures were by far the most interesting of any I attended at Göttingen; he exhibited one day a machine for hatching eggs, which he had frequently used, and which only required the heat of a spirit-lamp, and constant attention to keep all in order.

The head of the medical school is Dr. Himly*, a very mild and gentleman-like old man. His clinique commences every morning at eleven, when he usually sees a number of persons who apply to him for advice, either from the town or country. The plan adopted, here as well as at Berlin and other towns in Germany, is for the professor to allot such and such patients to different pupils, whose business it is to inquire into the general symptoms and nature of the complaint in presence of the physician himself; who then demands of them what diagnosis they have formed, as well as the method of treatment they would particularly recommend; if this meet with the approbation of the professor, the pupil writes out the prescription, which is submitted for his signature.

Such persons residing in the town as are not able to attend for advice, are treated in a similar manner by the students, who pay them daily visits, and then report to the professor every change that may take place, as well as the treatment they may recommend. Another medical clinique is given every day at ten, by Conradi, as well as a lecture on general pathology at three: the practice is by no means bold; obsolete

* A melancholy accident has just deprived the University of the services of Dr. Himly. The particulars will be found at page 96.—ED. GAZ.

remedies, combined with small doses of active preparations, as calomel, antimony, with a large assortment of diluent drinks, after the manner of the French, with great aversion to bleeding, being commonly employed. Lectures on morbid anatomy were advertised to be delivered by Dr. Herbest, but on calling on him, I found he had been obliged to abandon the idea, as so few had entered for the course.

The surgical class is by far the largest, and under the superintendence of Langenbeck, whose works have acquired considerable celebrity: the anatomical museum is situated without the Boulevards: it is a new building, and has been fitted up with considerable taste; the preparations, though not very numerous, are neatly arranged, and the theatre capable of containing a hundred pupils, where dissection is much pursued, and a lecture daily given. There is also a very extensive library belonging to the University, replete with books of all languages; the students are allowed permission to take them to their apartments, each professor whose lecture they may be attending being a guarantee for the return of them uninjured.

Göttingen possesses many advantages over the other universities of Germany, the living and lodging being at a cheaper rate (the table d'hôte, at the best hotels, costing daily, including half a bottle of wine, two shillings, while a good apartment may be had for a guinea a month). The students being a more gentlemanlike and more social set than those usually found at Bonn and Heidelberg, the small number of our own countrymen to be met with here, and the close intimacy which exists between the kingdom of Hanover and our own, all tend to render this town an object of selection for such young Englishmen as may be anxious to pursue their studies in a foreign university where the German language is spoken in its greatest purity. The distance from London to Göttingen is about 450 miles, and may be accomplished by the public diligences through Brussels and Aix-la-Chapelle in about eight days, at an expense of 20*l.*; and by going by steam to Rotterdam, and ascending the Rhine by water as far as Coblenz, it can be done for half that amount.

Your obedient servant,

VIATOR.

April 3. 1837.

THE EPIDEMIC INFLUENZA.

To the Editor of the Medical Gazette.

SIR,

HAVING for some time past read with very great interest various papers on the late epidemic, and as I am led to believe that the accompanying pamphlet* was not, as I directed, sent to you at the time of its publication (Aug. 1833), I have now to beg your acceptance of a copy. With very great satisfaction I am enabled to state that in the abstract, no reason has presented itself to me during the last epidemic to induce me to alter any of the opinions therein contained; on the contrary, most of them have, by increased opportunities of observation, been confirmed. The only additional remark I have made is, as to its mode of attack, which is even of a more protean character than I formerly believed. The two following cases, which I shall at present merely notice "*en passant*," may, perhaps, serve as good illustrations of this fact. The subject of the first was a lady about 70 years of age, to whom I was called very suddenly on the 10th of January. She had felt rather unwell during the day, and was in the evening seized with a fit partaking of the appearance both of syncope and apoplexy. I saw her in the course of a few minutes, and found her perfectly insensible, without pulse at the wrist, and the extremities cold. She rallied in about half an hour under the assiduous exhibition of diffusible stimuli. On the following morning I found her labouring under well-marked influenza, which yielded to the ordinary plan of treatment. Her convalescence was tedious, but is perfect.

On the 11th of January I was called upon to see a young lady, aged 21, and found her affected as follows. Severe pain in the forehead and coronal region; slight impatience of light; the thumbs and forefingers of both hands rigidly extended, and not subservient to volition; nor could flexion be produced even by considerable force; lassitude; but no other symptoms of the epidemic. Leeches were without delay applied over the mastoid processes, a full dose of the submur. hydrarg. was given, followed by brisk cathartics. At my next visit (on the following morning), I found

* We have noticed the pamphlet in a subsequent page.—ED. GAZ.

this patient labouring under influenza. She had recovered the use of the thumb and finger of the left hand, but the right were still partially extended. In a few days she was quite convalescent, but continued long very weak.

In regard to the treatment of this disease, my views are entirely unchanged. In no case during the late epidemic have I found it necessary to use the lancet, and with real pleasure find that the opinions expressed in my pamphlet seem to be generally confirmed by those gentlemen who have written on the subject. In fact, a principal object with me in writing on the subject, in 1833, was to counteract the mischief which I had seen follow its employment. In the epidemic of that year, I only used it in two cases, and regretted having done so in either. In the prisons here, it fell to my lot to treat a very great number of patients during its recent prevalence, and the only case which terminated fatally was that of a woman broken down in constitution, and advanced in years. She died, as is generally the case, of suffocation, induced by the rapid effusion of mucus into the bronchial tubes and cells, without the power of expectorating. The origin of this disease in atmospherical causes has been too long and too generally acknowledged to require notice.

If you consider the above worthy of a place in your columns, you will oblige me by inserting it.

I have the honor to be, sir,

Your most obedient servant,

GEORGE FIFE, M.D.

Newcastle-upon-Tyne,
22, Eldon-square, April 6, 1837.

TREATMENT OF INFLAMMATION; WITH SOME REMARKS ON INFLUENZA.

To the Editor of the Medical Gazette.

SIR,

WITH your permission I will comply with Investigator's request of continuing, or rather of renewing, the controversy between us, being anxious to maintain a doctrine of so much importance: not that I indulge in the hope of making Investigator a "convert," but that some few, out of the number of your readers, may be induced to lay aside a part of their preju-

dice, first, against the administration of nutritious food; and, secondly, in favour of large abstractions of blood in the treatment of inflammatory diseases. Whoever will do this will be encouraged to go farther, and make it an essential point in practice to support the powers of the frame under nearly all characters of disease, a maxim the propriety of which is so evident, that I am surprised its recommendation is not deemed supererogation. Investigator is certainly destined to become a "convert," although not by me, as he will move with the tide only; for the truth of this "new-fangled doctrine" is so well-founded, that it must prevail, and in a short time, as this is not an age for standing still: advancement is the order of the day.

Investigator states, that "it is not in such diseases as the present epidemic (influenza) that we are to look for proofs of the soundness of Mr. Searle's doctrine;" "nor is it to acute idiopathic peritonitis, enteritis, pneumonia, or phrenitis, that we ought to turn our eyes." He objects to cases of influenza being made the "criterion," on account of the inflammation in them being "modified by the debilitating epidemic disease, of which it is, in fact, merely an effect," and, as in typhus fever, not an essential part of the disease.

Investigator is mistaken in thinking that the influenza cannot be fairly brought forward to prove the soundness of the "new-fangled doctrine." It has been universally admitted that the influenza has been a dreadfully fatal disease; but, according to the "new-fangled doctrine" and practice, it ought not to have been a fatal disease.

It is very strangely, though generally, concluded, that because the epidemic influenza has been so universally prevalent, it was an epidemic of malarious origin, and consequently not necessarily of an inflammatory nature, although inflammation may have existed in some cases. I shall endeavour to prove, 1st, that the influenza did not originate in malaria; 2dly, that its sole cause was a change in the temperature of the atmosphere; 3dly, that it was strictly inflammatory; 4thly, that if it had been treated according to the "new-fangled doctrine," it would not have proved so fatal a disorder.

1st. *The reasons for not considering the "epidemic catarrh" to have had a malarious origin*, are, that it commenced after the cessation of a ten days' severe frost: since there was no malaria producing influenza immediately previous to the frost, when both the earth and the atmosphere were exceedingly moist, can it be alleged that malaria was generated during the frost, or at the thaw, while the ice and the snow

were still covering the ground? No chemist will admit this, nor can any of the faculty reasonably contend for such an occurrence. To ascribe the influenza to malaria, is to advance an absurdity—viz. that the same peculiar noxious vapour was chemically elaborated, and emanated (as if at the word of command) from all the various materials forming the surface of the earth, whether argillaceous or calcareous—whether siliceous or sandy—whether from a barren gravelly soil, or the grassy meadow—whether from a lake or a paved city; and these anomalies cannot be confined to England, as the influenza spread over a great part of Europe within the space of a fortnight, while the cholera occupied three years in extending very partially over Europe, its appearance being chiefly confined to the banks of rivers and seas.

Malaria is produced in low and damp localities only; the wind alone can extend its influence to high ground. No malarious disease was ever known to spread, like the influenza, in all directions over a whole nation, without regard either to soil or situation. Malarious diseases are most prevalent during seasons when the temperature of the atmosphere is becoming gradually lower; while the influenza appears only when the temperature rises.

2dly. *Increased temperature of the atmosphere the only cause of the influenza.* That this is the real cause admits of double proof; for the influenza not only never occurs but as a consequence of an augmentation in the temperature of the atmosphere, but any considerable reduction in the temperature will always occasion the influenza to disappear. With the thaw, in the first week of January last, commenced this fatal "epidemic catarrh," when the temperature of the atmosphere rose, in the course of five days, from about 32° to 50° Fah., and did not begin to disappear until the cold north winds set in at the latter part of February, and which have continued up to the present time, most of the nights having been frosty.

In April 1833, an influenza appeared in a memorable form, being very general and fatal, which was ascribed to an infectious condition of the atmosphere, but which admitted of the same simple explanation. The temperature of the atmosphere had averaged 45° during nearly three months up to the 27th of March of that year, after which the thermometer in a few days rose 10 degrees, and the influenza appeared; the mercury gradually ascended until the middle of May, when it reached 80°: the weather continued very hot several weeks. This epidemic lasted three months, corresponding in time to the high temperature of the atmosphere.

In January 1836, the frost was succeeded by comparatively warm weather, which produced similar inflammatory affections of the respiratory passages, and rheumatism, although they were not so general as in the above instances. And after every frost or cold season which has been sufficient to accustom the constitution to it, there will be an epidemic catarrh, rheumatic affections, &c., to an extent corresponding to the severity in the change of temperature. This is an observation I have made during several years, and am, therefore, under no apprehension that the future experience of those who have not yet made the same observation will prove it to be incorrect. In the *Lancet* of April 25, 1835, I published a paper, "*On the Agency of the Atmosphere in the production of Disease*," wherein this subject is more fully explained. It is therein stated that even temperate weather, if preceded by frost, is abundantly productive of inflammation of the air-passages, hæmorrhages, rheumatism, &c. It is true that cases of hæmorrhage were not very numerous during the recent epidemic: they prevail under a higher temperature and a lesser density of the atmosphere than occurred then, but which existed during the influenza of 1833. That was associated with numerous cases of hæmorrhage, also with those of purpura hæmorrhagica, ophthalmia, dropsy, &c., so that the recent epidemic being confined to rheumatism, and more particularly to inflammation of the respiratory passages, is just what might be expected according to the nature of the cause. The maximum of the temperature, which had risen from 32° to 50°, is five degrees less than temperate, and therefore not likely to influence those parts of the body which were not, as the lungs and limbs, directly exposed to the atmosphere.

The facts in support of these organs being peculiarly susceptible when exposed to variations of temperature, are exceedingly familiar. For example—when an individual is troubled with an inflammatory affection of the lungs, called catarrh, and his avocation requires him to be out of doors during the day, he finds that while he is in the open air, he scarcely coughs at all; but so soon as he returns home and enters a warm room, his cough becomes troublesome, and continues so throughout the evening, part of the night, and the next morning; but when he again leaves the house, his complaint becomes nearly, if not entirely, suspended, until he re-exposes himself to heated rooms. The symptoms of rheumatism are almost invariably aggravated whenever the patient becomes very warm in bed. Chilblains again afford striking proofs of the inflammatory agency of heat in succession to cold: while

the feet are exposed during the day to cold, the inflammation subsides, but soon after they are subjected to the increased temperature of a heated room, the inflammation returns with great violence.

These facts prove that not only the lungs when exposed to an increased temperature of the atmosphere are very susceptible of its inflammatory agency, but that the extremities of the body, which are much less delicate and sensitive than the lungs, are very liable, when subjected to an increased temperature, to become inflamed. Undeniable facts have been also produced, to shew that whenever the influenza has appeared, it has been preceded by a considerable rise in the temperature of the atmosphere: then why are not these two concomitant incidents to be admitted in the relation of cause and effect; by what species of ratiocination can a simple and palpable agent be rejected in favour of an alleged cause—malaria—which, having no apparent existence, must be involved in mystery.

3dly.—*That the influenza was essentially idiopathic inflammation of the mucous lining of the respiratory passages.* Although all the usual symptoms of bronchitis were present in the majority of the cases of influenza, yet it has been strangely asserted by many that this epidemic was not an inflammatory disease, and Investigator himself states, that the inflammation was “modified by the debilitating epidemic disease, of which it is, in fact, *merely an effect*”; implying that it was not idiopathic inflammation.

The influenza, of course, did not affect all persons alike, every shade of the disease, from the most trivial to the most alarming appeared. Some affections were confined to the nasal passages, to the fauces and larynx, or to the trachea, while others extended through all the bronchial tubes into the air-cells. Of this last description, nearly half the cases consisted; the symptoms being more or less pain or uneasiness in the chest, mostly increased by percussion; troublesome cough and wheezing; laborious respiration; the mucous secretion altered both in quantity and quality: the stethoscopic signs were Rhonchus gravis, R. sibilans, R. mucosus, and crepitation, which last was remarkably extensive, in most cases throughout the lungs, which gave the only extraordinary feature to the disease, indicating extensive œdema of these organs, which was, most probably, the immediate cause of its proving so fatal.

If such as these are not considered cases of idiopathic bronchitis, I cannot understand what other symptoms are wanting to make them so. In those cases, also, in

which the affection was confined to the trachea, the inflammation was as evident as it usually is, indeed the pain under pressure was greater, and often extended to the adjacent soft parts.

Those who ascribed the influenza to a malarious origin, hailed the chills which preceded the more formidable symptoms; as indications of that derangement of the nervous system which occurs at the commencement of idiopathic fevers; but if all the same symptoms had occurred in a few isolated cases instead of in a sweeping epidemic, then these same chills would have been considered as the proper premonitory signs of the accession of internal inflammation, and would have been deemed as decided confirmations of the observation of Cullen and other systematic writers; who state that internal inflammation is “ushered in by rigors.” Within my own limited sphere I witnessed two cases only which bore any symptoms particularly resembling idiopathic fever: the subjects of both were very old, they had not been taking sufficient nourishment, and had been expectorating copiously: the symptoms were typhoid only, and were such as under the above-mentioned circumstances might be expected.

4thly. *That the practice agreeable to the “new fangled doctrine” was the most, if not the only, successful treatment for the influenza.*

Under the impression that the worst cases of the influenza were cases of simple idiopathic bronchitis, the remedies I usually employ in this disease were had recourse to, viz. liquor potassæ, two or three times a day, to lessen the adhesive property of the morbid secretion, and an opiate pill at night, composed of calomel, opium, and ipecacuanha; counter-irritants, as blisters and emetic tartar ointment to the back, and when there was nausea with tenderness at the epigastrium, a sinapism was applied to this region. The diet was as nutritious as the patients could be prevailed upon to adopt. When the expectoration had become easy and redundant, the liquid potash was discontinued, and in many cases the quinine with sulphuric acid, or the muriated tincture of iron with muriatic acid, were substituted to restore the tone of the secerning vessels of the lungs. The acid disagreed with one patient subject to rheumatic gout, and the alkali brought on uterine hæmorrhage in another.

This treatment proved successful in every case which it fell to my lot to attend; and although the number was small, compared to that of many practitioners, yet it was sufficient to prove the superiority of the treatment in which nourishment was freely administered, to that in which it was all but prohibited. The subjects of

eighteen of these cases were aged, many of whom were liable to bronchial affections.

When the success of this treatment is contrasted with the fatality attending other systems of practice, it cannot be denied that this "new-fangled doctrine" deserves the consideration of the profession, instead of condemnation without trial. I cannot help feeling that the mortality was the more lamentable since it might have been almost entirely prevented.

As much prejudice is entertained against the free administration of nutriment during illness, I will, in order to shew its utility, describe the more prominent features of one case. A very delicate child had been during three weeks afflicted with diarrhœa, occasional vomitings, and restlessness at night, arising from difficult dentition; an attack of influenza then superseded, several days previous to which I had seen the child, and lanced its gums twice. It was at this period exceedingly emaciated, the catarrh which was accompanied by a peculiar sounding cough, commenced in the trachea, which was painful under pressure; it soon spread throughout the lungs, and at the lapse of a week the thrush appeared. This little patient in a few days more assumed a hopeless aspect, she was completely prostrate, labouring for breath at each inspiration, her shoulders were raised, and her nostrils dilated. The lungs were loaded with mucus, which could be heard at every part of the chest; the eyes were sunken; the tongue parched; dark sordes covered the teeth, gums, and lips; the fœtor of the breath resembled that which emanates from a corpse. This state of things continued several days, after which she gradually recovered.

The treatment consisted, for the most part, in the means before mentioned. Notwithstanding the very unfavourable circumstances under which the influenza appeared, this case would not have become so dangerous could the child have been prevailed upon to have taken sufficient nutriment prior to the thrush coming on; fortunately, however, it then had more thirst, and took during each day either two or three eggs, beat up in milk, and well sweetened, a small quantity of strong ale occasionally, or some alamode beef-soup. Had not this child's feeble powers of frame been assiduously nursed up, it would certainly have died.

Although "Investigator" deems such a system of practice erroneous, I have no doubt that he will, at no very distant period, admit it to be established as a rule, that proportioned to the debility produced, whether by medical treatment or other-

wise, will be the fatal tendency of all inflammatory diseases.—I remain, sir,

Your obedient servant,

H. SEARLE.

Queen's Place, Kennington.

March 27, 1837.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abrégé."—D'ALEMBERT.

Die Fortschritte und Entdeckungen unserer Zeit im Gebiete der medicinischen und chirurgischen Diagnostik, wissenschaftlich und praktisch geordnet. (The Progress and Discoveries of our Time in the department of Medical and Surgical Diagnosis, scientifically and practically arranged). Von DR. KARL WENZEL. 2 Theil. Erlangen. Schloss, London.

A COLLECTION of memoirs and cases calculated to assist us in the diagnosis of diseases: they are principally taken from the medical journals. The author has appended some critical remarks on the principal works recently published on this subject. It is remarkable, however, that he omits all notice of Dr. M. Hall's work on Diagnosis.

Lehrbuch der Chemie. (A Class-book of Chemistry). Von E. MITSCHERLICH. 1 Band; 3 Auflage. Berlin, 1837. Schloss.

THE high reputation of the author is a sufficient guarantee of the value of his work, which has run through three editions in little more than three years. It is an excellent introduction to chemistry, rendered highly interesting by a series of woodcuts. We think it would pay well to be translated. A translation of it has appeared in France, but a part of the value of it is lost by the plates being placed at the end of the volume.

First Principles of Surgery, being an Outline of Inflammation and its Effects. By GEORGE T. MORGAN, A.M. Lecturer on Surgery in Aberdeen. Part I.

THIS work is, as the author admits, "a simple statement of known or ac-

known facts," and is well adapted for the class-room. The first section of it is devoted to the *arterial system*. After describing the structure and termination of the arteries, he gives the following account of the capillary circulation:—

"When a transparent texture in a living animal is placed under the microscope, the capillary circulation is readily brought into view. No definite arrangement of vessels, either as to size, number, direction, or mode of termination, can be perceived. In some of the vessels, three or four globules of blood are moving abreast; others seem only capable of admitting one. Some continue in a straight line; others are reflected back, and terminate immediately in a vein. Some send off lateral branches into veins running parallel to them; in others, one artery ends in a corresponding vein; while again, three or four branches may be observed to be continuous, with only one venous trunk. The capillaries anastomose freely with each other, the veins more so than the arteries; the latter are also smaller, and less numerous than the former."

In the second section he discusses the *theory of inflammation*, a subject which, we think, would better follow than precede the symptoms. After noticing the two theories which have long occupied the attention of pathologists, the one setting forth that the action of the vessels is increased, the other that it is diminished, he observes—

"Two or three positions respecting the state of an inflamed part have been universally admitted. First, that it contains more blood than one in a natural condition; secondly, that its vessels are distended or dilated; and, thirdly, that minute branches which only previously allowed entrance to a colourless fluid, now contain coloured globules. The controversy has been, whether the vessels have their action increased, and are transmitting more blood through them in a given time; or whether their action is diminished, and there is a stagnation of their contents."

The third and fourth sections are taken up with the *local symptoms and constitutional effects of inflammation*. The fifth is devoted to the *varieties* of this disease, the sixth to its *terminations*,

and the seventh to its *progress in different structures*. An index, or table of contents, is sadly wanted.

To those of our readers who want a good abstract of the present state of our knowledge with respect to inflammation, without entering into any elaborate details, we can strongly recommend Mr. Morgan's work.

Observations on Influenza, its Nature and Consequences, as it appeared in the Author's Practice, during its recent Prevalence in Newcastle-upon-Tyne, and at former periods in Edinburgh. By GEORGE FIFE, M.D. formerly Surgeon to the Northern Public Dispensary, &c. &c. &c.

THE *Observations on Influenza*, by Dr. Fife, of Newcastle, and to which he refers in his letter, at p. 77 of our present number, had escaped our attention, as he justly surmises. His description is applied to the epidemic of 1833, but is not the less interesting on that account, as all his remarks apply with equal force to the visitation which has just passed over us. His account of the disease itself is accurate and satisfactory, while his remarks on the different modes of treatment are extremely judicious: we can only find room for those which relate to emetics—a highly useful and neglected set of agents.

"*Emetics.*—The value of this class of remedies is now much more generally appreciated than it was a very few years ago, and we are satisfied that every day's experience of the widely-diffused utility of emetics will, ere long, ensure that attention from the profession to which they are so justly entitled. For our present extended views of emetics, and their effects on disease, more especially on inflammatory complaints, we are principally indebted to the physicians of Italy and France, who have, for many years past, employed them very extensively, not only in inflammations of the chest, but also of the serous membranes of the other cavities; and we have, from very extensive trials, come to the conclusion that their efficiency in removing even purely local affections of external or superficial organs or parts, is scarcely

less than over internal diseases. To derive any benefit from emetics, we must obtain one of three effects—viz. vomiting, nausea, or perspiration; as where none of these effects is produced, we shall invariably find their employment productive of bad effects; as, where irritation already exists, such condition is almost constantly increased by the exhibition of emetics, unless one of these actions is excited, and where no irritation has previously existed, it very frequently ensues. The emetics most generally used in disease are ipecacuanha and the tartrate of antimony; and the propriety of our selection must altogether depend on the effect we wish to produce. Where our object is vomiting, or the true and extreme action of this class of medicines, ipecacuanha will be found best adapted to the case; where, on the contrary, we wish to excite and keep up nausea, the tartrate of antimony will be found most efficacious; and where it is desirable to produce both effects, a combination of the two will fulfil the intention. As the one excites vomiting without producing nausea, the other cannot produce vomiting without nausea, both preceding and continuing for a time after such action has ceased. Where then, we wish, in the first instance, to produce full vomiting, and subsequently to maintain nausea and perspiration, this object will be effectually attained by administering a full dose of ipecacuanha, with a small proportion of the tartrate of antimony. The latter may afterwards be continued alone, when circumstances render such a mode of proceeding requisite; or it may be continued in conjunction with the sulphate of magnesia or soda, if the bowels are not sufficiently active. If any means possesses the power of arresting at once the course of influenza at its commencement, it is the exhibition of an emetic; this is more especially the case when the subject is young. To sum up the foregoing remarks, we would simply observe, that no medical treatment, so far as experience enables us to speak, is more certainly efficacious in influenza than the use of emetics, especially where the tongue is loaded, and stomach derangement is present.”

MEDICAL GAZETTE.

Saturday, April 15, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

MEDICAL ATTENDANCE ON THE POOR.

No one can possibly doubt the evils of the old Poor-law system in England, nor hesitate to admit that a great change had become necessary. That the scheme adopted by the present government is in many respects good, we presume will be readily conceded; but that it has great and crying blemishes seems also to be generally felt. Now we are not among those who would raise a mere party clamour—we would earnestly desire to see what is praiseworthy retained, and what is objectionable abolished. That something will be effected by the present parliamentary inquiry can scarcely be doubted; but we do not believe that enough will be accomplished as regards the medical attendance on the poor, unless the Corporate Bodies lend their assistance. One of these—the Worshipful Society of Apothecaries—has already done so, and with a praiseworthy alacrity. It particularly became them to take the lead, because the gentlemen who mainly suffer are chiefly licentiates [of their body. The other medical corporations, we are told, ask what they have to do with the matter?—and this, though not very encouraging, at least implies, that if it could be shown that they *had* any interest in the question, they would not refuse to bestir themselves. Now if the general practitioners be, as we hold they are, greatly injured by the existing system, would it not be a liberal—would it not be a gracious and conciliatory measure, on the part

of those who represent the physicians and surgeons of the empire, to support the prayer of their brethren—to shew sympathy and fellow-feeling with the members of their common profession? Assuredly it would; and many among the members of the Colleges view the subject as we do, and feel strongly the expediency of what we urge.

But we appeal to them on the score of humanity, and trust the invocation will not be in vain. Let them look to the authenticated statements which from time to time have appeared in the public papers, in the medical journals, and in the parliamentary evidence. They will there find instances of such neglect—often unavoidable neglect—as cannot but shock their feelings; and of such scanty relief to the sick, and such laborious drudgery on the part of the unhappy surgeon, as often to leave it matter of doubt whether the patient or his attendant be most entitled to our pity. Surely an evil so pressing in its nature, and so extensive in its application, cannot be foreign to the sympathies of benevolent men; and in what capacity more appropriately than their corporate one can they possibly step forward? Indeed, to us it seems quite extraordinary that the Colleges should hesitate to stand forth on an emergency so important; nor do we believe that the Government would for one moment venture to continue a system of medical relief against which the three institutions, constituting the legal heads of the profession, should concur in protesting. Let their revilers periodically pelt them with their paper pellets: the medical corporations have a moral influence still, which, we repeat, the Government, jealous as it is of them, has not the moral courage to resist, or rather has the prudence to yield to, were

their opinions boldly expressed. In all and every expression of opinion against the “tender” mercies of the Poor-Law, the popular voice would go with them, and echo their liberal sentiments in tones which would reach the inmost recesses of the Cabinet.

But is it said we exaggerate the evil? Take one solitary instance which is related in a pamphlet published a few days ago by Mr. Addison, and which fell within the writer’s own observation* :—

“I was riding (says he) during the last winter, in an adjoining parish, not a mile and a half from my own house, when a poor woman called me to see her daughter, an interesting girl about twelve years old; she had been ill for a week of measles, and lay on the bed with inflammation of lungs, panting, with low noisy respiration, and quick rapid pulse—the child appeared to be almost past recovery (immediate venesection, blisters, emetics, &c., however, ultimately restored her). Upon questioning the poor woman as to her seeming neglect, she said she was a *widow*, with two helpless daughters—that she was receiving some relief from the Board, and too poor to pay any thing herself for medical advice—the town where the Relieving Officer of the Union to which her parish belonged, and where the District Surgeon resided, was *eight* miles off; it was impossible for her to go, she had no neighbours who could or would go that distance for her—and the snow was at the time deep upon the ground.”

But this picture of destitution represents only the sufferings of the patient and her friends; the unhappy *Doctor* is scarcely less an object of commiseration.

“I wish the Commissioners in their comfortable quarters at Somerset House could witness an event which often happens to the country surgeon; he has

* Practical Suggestions for ameliorating the present System of affording Medical Relief to Paupers; addressed to the Committee of the Poor-Law Amendment Act.

just taken off his mud-bespattered boots, and seated himself at his fire, after a frugal dinner in the month of January, when a loud ring is heard at the bell, and a country labourer is ushered into the hall. Please, sir, you are to go directly to ——— (some five or six miles off), neighbour so-and-so has broken his leg. The poor doctor puts his head out of the door, and is saluted by a plentiful sprinkling of large drops of rain, or it may be snow and wind—but he has no alternative, he must go—boots, spurs, great coat, comforter, and hat, are again in requisition—the poor horse is re-bridled and saddled—the great coat pockets are loaded with bandages, lotions, splints, &c. ; and instead of a comfortable evening, after the fatigues of the day, by his own fire-side, and in the bosom of his family, the Poor Law functionary has to issue forth in the cold, the dark, the wind, and rain. When he reaches the cottage of the poor sufferer, he dismounts—there is no place to put his horse in—an old sack is thrown over the saddle, and some neighbour perhaps will walk the animal about a little, or the bridle must be tied to a post, with the chance of its being broken ; within the cottage there is hardly less wretchedness than without ; a flock bed, a bolster or two, but no pillow ; the only man near is employed in leading the horse about ; and the doctor, with the sufferer's wife and another female, in the midst of a crying family, are left to adjust the fracture, to apply the necessary bandages, and to deposit the limb in the softest place, and in the best manner practicable ; and for this, together with all the subsequent time, anxiety, attention, and medicines required for the cure, the professional gentleman is offered, in some Unions TWO, and in some others, perhaps, THREE SHILLINGS."

We sincerely believe this picture not to be overcharged ; and if it be not, who will say that it is out of the province of any member of the profession to do his utmost to put an end to such a miserable system.

The mode of cure may not, perhaps, be easily devised ; but what ought *not* to be done is clear. Needy men ought not to be encouraged to bid against each other, till the remuneration they accept is such as a common labourer

would refuse. This underselling cannot exist without the poor being neglected ; for however honest and conscientious the *fortunate* competitor who obtains the appointment, yet, in many instances, it is not possible for him to attend to all the calls upon his time and services.

What ought to be done, however, is much less obvious ; but we are very much inclined to think that the plan of having a medical Board to superintend the necessary arrangements, in the manner proposed by Messrs. Rumsey and Ceeley (see their paper in this journal, p. 874, last vol.) would be the best.

There is another point on which Mr. Addison touches—namely, that of clubs. These, he observes, could only be made to succeed by large numbers subscribing ; whereas, at present, none become members who are not already sick. In a club with which he is connected, Mr. A. informs us that the whole number of subscribers is formed of six families, and that the sum total contributed amounts to 27 shillings. Every family, with one exception, has required attendance and medicines ! — so that the reader may judge how far the speculation has been a profitable one.

CENTENARY OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH.

It escaped us at the time to notice the Centenary of the Royal Medical Society of Edinburgh, an event which was celebrated on the 17th of February, by a considerable number of members then in the northern metropolis ; Dr. Hope, the well-known professor of Chemistry, taking the chair.

Mr. Carpenter, the senior President, delivered an Oration, which appears to have excited great and well merited approbation. He dwelt on the many important discoveries and works which had originated in the proceedings of the Society, and enumerated some striking instances in illustration. It

was at the Royal Medical Society of Edinburgh that Dr. Crawford first promulgated his theory of animal heat—there that Dr. Currie first read his essay on the effects of cold, afterwards extended so as to constitute one of the most beautiful pieces of medical writing in our language. There Bateman began his papers on the skin—and there Henry first showed his love of chemical science—Prichard his devotion to the physical history of man—Ellis his first investigations into the atmospheric changes produced by respiration. Jameson there first showed his geological enthusiasm—and John Thomson's work on inflammation had its origin within the halls of the society.

We subjoin Mr. Carpenter's peroration, copied from the pages of a respected contemporary*.

"If in past times an ardent thirst after knowledge, a generous emulation in its acquirement, a steadfast pursuit of truth, a clear and unprejudiced judgment, were cherished in the breasts of the illustrious men who have shared our association, by the opportunities of mental cultivation which they there enjoyed, and of which they have shown the abundant fruits, can we believe that these ennobling influences are no longer exerted, that from the increased fertility of the soil has resulted any diminution of its products? Gentlemen, let the memory of the energetic spirits, who, with Promethean skill, united the scattered elements into this giant frame, and animated it with living fire, not be without its effect this day, in stimulating us to carry on their noble purposes with renewed vigour. Their period of exertion has passed, and we have entered into their labours. But, though dead, they yet speak to us, in the dauntless courage with which they opposed the prejudices of the times, and the unwearied energy by which they succeeded in dispelling them. They speak to us in the noble reputation they have acquired for our institution, and which we are bound by the most sacred ties to maintain. They speak to us in the ardent zeal of their pursuit of truth, which they call upon us to imitate.

They speak to us in the individual celebrity which they acquired, and encourage us to similar attainments. And could their spirits be with us this day, to witness the glorious result of their exertions, they would join with us in the earnest desire that the Society which they founded, and which now depends on us for its support, may still be the first in usefulness, as it was the earliest in formation; that as long as medical science shall continue to advance, and the pains of suffering humanity be assuaged by the healing art, so long it may persevere in its brilliant course, with undiminished lustre; and that many centenary gatherings of its members may unite, as we now do, in the fervent wish,—ESTO PERPETUA."

DEATH OF DR. CUMMIN.

It is with deep regret that we have to announce the decease of Dr. Cummin, which took place at his house in Great Russell-Street, on Monday the 10th inst. in the 37th year of his age.

To the readers of the *MEDICAL GAZETTE* the writings of Dr. Cummin have long been familiar. They were chiefly characterized by their accuracy and precision, by their uniform tone of virtuous and liberal feeling, and by their contemptuous denunciation of empiricism and falsehood. His uncompromising opposition to whatever he considered derogatory to the honour and welfare of the profession drew upon him a bitterness of vituperation from rival contemporaries, which, however, never for a moment disturbed his equanimity, while it proved how keenly they felt his castigations.

Dr. Cummin was a very reserved man; personally known to very few of his brethren in the metropolis, but much and justly esteemed by those who enjoyed his acquaintance. He had for several years lectured on Forensic Medicine, and was most highly valued by his colleagues at the School in Aldersgate-Street. The nature of the subject which he there taught seems to have been especially adapted to the constitution of his mind; as may

* British and Foreign Medical Review.

be gathered from the extraordinary research and perspicuity displayed in his lectures published in our last volume,—and of which a very high opinion has been expressed by one of the first authorities at the English bar. His industry was untiring, and his thirst for knowledge insatiable,—but a love of truth was the strongest feeling of his mind, and pervaded all he said, and all he wrote.

Dr. Cummin had been for a considerable time suffering from synovial rheumatism of the right knee, and about a fortnight before his death became affected with cerebral symptoms, which ultimately proved fatal.

Since the preceding was written, we have seen, in the *Morning Post*, a paragraph in several respects very similar to the above, and evidently from the pen of one well acquainted with the character of the deceased.

M. DUBOIS.

WE have to add yet another to our list of deaths, in announcing that of DUBOIS. This distinguished veteran died at Paris, on the 30th of last month, in the eighty-first year of his age.

M. Dubois was the last remnant of a by-gone race—he was the pupil of Desault, and the friend of Bichat, Lavoisier, and other eminent men of the last century. His history was in several respects remarkable: he was born at Gramat; and having studied at the College of Cahors, set off for Paris at the age of twenty, where he arrived in a condition which reminds us of the early life of Goldsmith, having just two sous and a half in his pocket when he took up his abode in the gay metropolis of France. He obtained employment as a teacher of reading and writing, by which, and copying law-papers, he contrived to support himself and continue his medical education. He soon after procured an introduction to Desault, who had the penetration to discover his merit, and under whose countenance he procured employment in teaching anatomy privately. About the end of the reign of Louis XVI he was appointed

professor of anatomy, and progressively rose to a station of the highest eminence as a practitioner in surgery. Dubois had not the inventive genius of Dupuytren, but was remarkable for his judgment, self-possession, and manual dexterity.

He was a very eloquent lecturer, and greatly respected by his pupils, including an immense number of the present race of medical men in France.

EDGEWARE-ROAD MURDER.

BEFORE this meets the eye of the reader, the fate of the culprits connected with the “Edgware-Road murder” will have been decided. With the merely legal points of the investigation we have nothing to do; but we cannot let the opportunity pass without remarking on the great extent to which the ends of justice were furthered by the medical evidence. The investigations of Mr. Girdwood especially, as detailed in his communications to this journal, and which we perceive were referred to on the trial, show at once the importance of such medico-legal inquiries, and are highly creditable to the zeal and talents of the gentleman above mentioned.

INTESTINAL WORMS.

WE have inserted at page 94 the first of a set of curious and interesting tables with which we have been obligingly furnished from the Entomological Society by the Rev. F. H. Hope, V.P. The information they are calculated to afford is varied and extensive, as will be seen by inspecting them. We are further authorized to state, that gentlemen who are at a loss to ascertain the species of any intestinal entozoon they meet with, may have their doubts solved by application at the rooms of the Society, 17, Old Bond-Street, any Tuesday between 12 and 4 o'clock; the distinguished naturalist above mentioned being anxious to render every assistance to those interested in the subject.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 11, 1837.

A Case of Diabetes Mellitus, which terminated favourably. By H. WEGG, Esq., Surgeon. Communicated by Dr. ROOTS.

The patient in this case was 52 years of age, of vigorous constitution, accustomed

to much exertion and exposure to the vicissitudes of weather. In May, 1835, he felt his health gradually declining; he suffered much from thirst and weakness, and was becoming gradually emaciated, notwithstanding that his appetite remained unimpaired. His urine was pale, and without sediment, and amounted in quantity at this period to six or seven pints in the night, and quite as much in the day, although the latter was not subjected to measurement. From the period above mentioned until the middle of August, the symptoms continued undiminished: the emaciation became more and more striking, and the sight so much impaired as to require the use of convex glasses of higher power by two degrees than those the patient had been accustomed to.

At this time Dr. Roots saw the patient, in consultation, and advised that three minims of creosote should be given three times daily,—that a blister should be applied to the loins,—that half a grain of opium and four grains of extract of gentian should be taken with each dose of the creosote,—and that the patient should be strictly confined to animal diet, avoiding altogether wine and beer.

This treatment was persevered in for more than a year and a half, with slight occasional variation,—the creosote, however, being first diminished in dose, from disagreeing with the patient, and ultimately entirely discontinued about three months after it had been commenced. At the time the author wrote (March 6, 1837), the patient was considered to be entirely well:—to use his own words, he “never had so much fatigue, and never felt it less.”

A short conversation ensued between Dr. Merriman, Dr. Bartlet, and Dr. Weatherhead, after which a paper was read from the pen of Dr. Clendinning; of which, however, no analysis had been made at the time of our going to press.

ROYAL INSTITUTION.

Friday, April 7, 1837.

MR. DENT delivered a lecture on *Watches and Chronometers*. The subject was not one well suited for a large audience, as minute inspection is necessary to obtain a moderate knowledge of it; nor can we say that the lecturer's manner served at all to enliven it. Towards the close of the lecture, however, he stated some interesting facts, the most striking of which was the following:—That one ounce of steel which, in its rough state, is worth only $4\frac{1}{2}d.$, when manufactured into watch-springs is worth 900*l.*—being beaten out into 2250

feet, which afford 7000 watch-springs at 2*s.* 6*d.* each.

A table was also exhibited, from which it appeared that a watch consists of 992 pieces (the chain consisting of 826), and that there are 43 different trades employed in its manufacture.

ST. GEORGE'S HOSPITAL.

Excision of the Superior Maxillary Bone for Albuminous Sarcoma.

CAROLINE GOODEVE, æt. 18, admitted November 10th, 1836, with a tumor of the upper jaw, projecting in front of the incisor and two or three adjacent teeth on the right side. The swelling is about the size of a chesnut, hard, elastic, and slightly moveable, although closely connected with the bone from which it appears to have sprung. The tumor first presented itself immediately above the socket of the canine tooth of the right side, and from thence extended itself downwards and forwards in front of that, and of the teeth on either side, and finally completely enveloped them by passing round them to the interior of the mouth. The disease commenced two years ago, and has been throughout unaccompanied by pain; but previous to the first appearance of the swelling she suffered from toothache and pain in the right cheek bone; general health has always been good.

On the 24th, Sir Benjamin Brodie commenced the removal of the disease. With a strong curved knife an opening was made above the tumor, through the alveolar process into the antrum, to ascertain the boundaries of the disease. It then became apparent that the disease was chiefly situated in the antrum, the cavity of which was found full of the fungus growth. After a short consultation Sir B. Brodie decided upon attempting the removal of the disease. The fissure of the mouth was extended by a horizontal incision nearly to the ascending ramus of the lower jaw. The flap of skin then having been dissected off the superior maxilla, the removal of that bone itself was accomplished, chiefly with large sheep-bone forceps. The separation of the internal side included part of the nasal bone, the inferior turbinated, and the lachrymal. On the outer side the section was made through the malar bone, near its junction with the superior maxillary. Thus the bone was freed from all but its posterior and orbital connexions, which were then separated by means of the fingers; not more of the floor of the orbit coming away than is formed by the orbital plate of the maxillary bone; but with the back of the

antrum the pterygoid process was removed. A few vessels were tied during the first part of the operation, but afterwards no difficulty was found from hæmorrhage. The external wound was brought together by sutures and adhesive plasters.

On examining the parts that had been removed, the disease had a malignant aspect, but it was found to proceed entirely from the mucous membrane of the antrum, and that the bones had been involved only at the lower part. The diseased structure is of a firm whitish, fungus-like growth, similar to what Mr. Kiernan describes as albuminous sarcoma.

Dec. 3d.—The wound has united by the first intention, and there is not the slightest deformity beyond that occasioned by the incision, nor has the cheek at all fallen in; she can speak tolerably clearly, and does not experience the slightest difficulty in deglutition, beyond that of being obliged to swallow slowly. The hearing of the right ear is somewhat impaired, and there is dimness of vision in the right eye, with dilated and immoveable pupil; there is an abundant and healthy discharge of pus into the cavity of the mouth. No febrile or constitutional symptoms of any kind succeeded the operation, and the patient has been entirely free from pain.

7th.—There is slight erysipelatous inflammation about the cheek and round the wound; has had no shivering, but has been sick; skin hot, pulse quick. Hydr. subm. gr. iij. stat. H. Sennæ, p. hor. iv.; Liq. Amon. Acet. ʒij. 6tis. hor.

9th.—The erysipelas has continued to increase over the right side of the face, closing the right eye; there is, however, less fever.

12th.—Inflammation remains the same; has slept well; skin less hot; pulse still rapid and weak; bowels open; tongue rather dry.

R Ammon. Carb. gr. v.; Liq. Ammon. Acet. ʒss.; Mist. Camph. ʒss. 6tis. horis.

15th.—The erysipelas has gradually subsided since the last report. She has regained the perfect use of the right ear, but complains of occasional double vision, which probably arises from the right eye having become slightly displaced downwards.

25th.—Has entirely regained the use of the right eye; her general health is very good; the cicatrix has contracted so as to cause the cheek to fall in slightly.

Jan. 23, 1837.—Externally the maxillary bone has been replaced by a very dense fascia, which affords great resistance to the finger when introduced into the mouth and pressed against it. She left the hospital in perfect health.

WHY HAVE THE MEDICAL OFFICERS OF THE ARMY

BEEN EXCLUDED FROM THE ADVANTAGES
OF THE RECENT BREVET?

“Is there a Muse will her assistance lend
To him who wants a patron and a friend?”

NOYES.

To the Editor of the Medical Gazette.

SIR,

THIS is a question more easily put than answered. We cannot believe that our justly-distinguished chief, Sir James Macgrigor, has not urged our claims with his usual “esprit de profession;” but we have heard that a brevet would remove to the shelf many of our *time-honoured* and ancient brethren, who now occupy staff and cavalry situations, and it has even been said (although we can scarcely believe it) that the naval surgeons have put an obstacle in our way, by pressing their claims to a similar promotion.

Are the medical officers of the army inferior to their brethren in civil life in acquirements, or neglectful of their duties; or so *well paid* as to be unentitled to that advancement which they honestly merit?

Is it to be supposed that the members of a liberal military profession, ranking among its members men of education, many of whom have attained the highest literary distinction, can possibly remain silent under such manifest injustice, or feel otherwise than indifferent to the maintenance of their high professional character?

A most appropriate opportunity of effacing the slight cast upon the military medical profession is about to present itself, namely, the anniversary of the Princess Victoria's birth-day, whom we have reason to know is desirous of doing every thing to promote the welfare and happiness of the British nation, and in an especial manner the views and interest of a loyal, highly-distinguished, and meritorious class of public servants.

We trust that the Editor of the United Service Journal, and every other military periodical, will endeavour to promote our views; and, relying entirely on your liberality and sense of justice to advocate our cause, I remain, wishing a continuance of your merited popularity and widely-spread influence, your most obedient servant and occasional contributor,

AN ASSISTANT SURGEON.

Dublin, April 1, 1837.

TYRRELL'S EDITION OF COOPER.

To the Editor of the Medical Gazette.

SIR,

HAVING been reminded by Philalethes, in your GAZETTE of April 1st, of the inconvenience and disappointment resulting from delay in the continuation of works already partly published, I am induced to request you, through the medium of your valuable hebdomadal, to inform me, and your readers interested in the subject, whether there is any probability that the Lectures of Sir A. Cooper, by Tyrrell, will soon or ever be completed. Several other medical friends as well as myself are in possession of three volumes already published, and would hail with much satisfaction the appearance of the fourth.—I am, sir,

Your obedient servant,
EXPECTATOR TOMI.

Gloucester, April 11, 1837.

REWARD OF "ABLE AND SATISFACTORY SERVICES."

To the Editor of the Medical Gazette.

SIR,

A CASE having recently occurred, in which the injustice of a Board of Guardians appears to me very strong, will you be kind enough, without troubling you with the circumstances of the case, to inform me whether, after a medical man has been elected, and *ably and satisfactorily* fulfilled (their own words in a letter to him) the enviable situation of parish doctor under the said Board for the time agreed on, they have a *right* (for I have heard not) to turn him out, without giving him the option of accepting the said office on the same terms another would take it for? It is not for my friend only, but the public generally, that I ask it.—I am, sir,

Your obedient servant,
VINDEK AND A CONSTANT READER.

April 11, 1837.

[The justice of the case is clearly on the side of Vindex; the *law*, we suspect, is in the hands of the Commissioners.—ED. GAZ.]

INJECTION OF IODINE FOR THE CURE OF HYDROCELE.

HAVING learned that the preparations of iodine had been employed as topical reme-

dies in hydrocele, M. Velpeau has thought of trying them also in the form of injection. For this purpose he employed a mixture of water and the alcoholic tincture of iodine (from 3i. to 3ii. of the tincture to 3i. of water). After having emptied the cyst by the usual puncture, he employed an injection of from 3i. to 3iv. of the above mixture. There is no object in filling the tunica vaginalis with it, provided that you force the mixture to touch all its interior surface. It is then immediately withdrawn, and we need not dread a certain quantity remaining in. As it is not necessary to warm this remedy, nor to fill the cyst with it a second time, nor to withdraw the whole injection, the common syringe for injections through the urethra is sufficient: it is enough to fill it three or four times, if the hydrocele be large. After the injection, the patient need not remain in bed. The part swells for three or four days, without causing fever or serious pain: adhesion then commences, and usually proceeds rapidly.

M. Velpeau has already tried this method in twenty cases, and in none of them has any accident occurred. Eighteen of them have been cured in less than twenty days. In one, adhesion had only partially taken place on the 31st day. M. Velpeau repeated the operation, which was rapidly followed by cure. The twentieth, who had a double hydrocele, remained six weeks in the hospital, on account of a swelling of the testicle. Two had been operated on, without success, by wine injections, and by the cautery. Two had an encysted hydrocele of the spermatic cord. In three the tumor contained nearly twelve ounces of serous fluid. Ten had the testicle hypertrophied. In all but two the affection was of more than six months' duration; two of them had been affected for fifteen years, and one for twenty-four.

Two of M. Velpeau's cases show that by this injection encysted hydrocele of the cord may be cured radically in ten days, and that in five days some hydroceles of the tunica vaginalis may be made to disappear.

The advantages of this plan are the following:—Nothing but a common urethra syringe is required. As it is not necessary to distend the tunica vaginalis, there is little risk of the cellular tissue of the scrotum being infiltrated with the liquid. As iodine is a substance that may be absorbed, its infiltration does not seem to expose the parts to the risk of gangrenous inflammation, as wine does. It need not be retained more than from four to ten minutes in the cyst. When an ounce of it was left in the tunica vaginalis on purpose, its success was only

the more prompt. The patients suffer little. They can get up and walk about next day without considerable inconvenience. According to M. Velpeau, the cure is quicker than by wine injections, and there is no reason to doubt that it is as permanent. It remains for further investigation to ascertain in what modes the iodine can be best employed, and to what particular cases it is most applicable. We may add that one patient, who was cured in ten days, died afterwards from amputation of his leg. The scrotum was carefully examined, and cellular adhesions were found established in all points of the tunica vaginalis, so that a relapse was impossible. A syringe that holds three or four ounces is large enough for all cases. The best material for it will, of course, be that which is least acted on by the iodine. M. Velpeau employs tin.—*Gazette Médicale*.

ON NICOTINE:

THE ACTIVE PRINCIPLE OF TOBACCO.

TWENTY-SEVEN years ago, Vauquelin discovered in tobacco an acrid and colourless principle, to which MM. Possett and Reimann gave the name of nicotine. MM. Henry and Boutron have lately made some researches as to this substance, of which the following are the chief results. Nicotine can be obtained crystallized only when we act on pretty considerable quantities, as it very rapidly absorbs the moisture of the atmosphere. Nicotine is very soluble in æther, alcohol, oil of turpentine, water, and the dilute acids. Its specific gravity is 1048. When heated in a platinum spoon, it wholly disappears in the form of white and very irritating smoke, which is inflammable, and smells like tobacco. It forms salts with acids, which, when evaporated in vacuo, form pearly or granular crystals. The nicotine, when cold, has but a slight odour; but its vapour irritates the olfactory membrane violently. Its taste is very acrid and caustic, and excites in the back of the mouth a strong sensation of burning and numbness. Light acts on it, and makes it of a brownish yellow, and it possesses undoubted alkaline qualities. The difficulty of obtaining anhydrous nicotine, or any of its salts, in a state of saturation, has prevented its elementary composition from being ascertained. Its action on the animal economy is so intense, that it must be considered one of the most active of the vegetable poisons. A drop introduced into the bill of a strong pigeon killed it instantly. Smaller birds have died when

a tube merely impregnated with it has been brought near them, and four or five drops have always rapidly destroyed dogs of moderate size. It is probable that tannin, which is an antidote to most of the alkaloids, ought also to be employed in poisoning by nicotine, or infusion of tobacco, as it forms with it a white caseous precipitate, scarcely soluble in water. MM. Henry and Boutron have satisfied themselves that nicotine has an independent existence, and is neither the result of manufacture, nor of the chemical process by which it is obtained. They also find that the best tobacco does not contain the most nicotine, in the same way that the most esteemed wines do not contain the most alcohol.—*Gazette Médicale*.

CHOREA TREATED BY SULPHUR BATHS.

M. C., aged 12, was admitted, 29th February, 1835, into the Hôpital des Enfants Malades, under the care of M. Baudalocque, for chorea. She was of delicate constitution, and very timid. The chorea had appeared nineteen days, and had been caused by a fright. When admitted the following appearances presented themselves:—Extreme agitation, so that two beds, placed side by side in a corner of the ward, could scarcely contain her. She was unable to speak. Her head was bent sometimes forward, sometimes backward, as if the muscles of her neck were paralysed. She could not sit up; her respiration was difficult, and asphyxia seemed to be impending. Her pulse could not be counted, from the constant agitation. On her arrival, a sulphur-bath was administered, in which she was held by two persons for an hour and a half. She was more quiet during and after the bath. In the evening the use of it was renewed. Next morning she had two more sulphur-baths.

February 23d, four days after her admission, there was a marked improvement: she could answer a few questions, and shewed her tongue after some efforts; but she was unable to lay hold of any thing. She gradually improved, and March 1st she was able to walk about without support. The sulphur-baths were continued, and (March 5th) her cure was completed.

In February 1836, the girl returned, with a similar attack, and was cured by sulphur-baths, iron, and quinine.

In February 1837, she returned; her present attack being caused, like her two former ones, by a fright. Both sides were affected; she could not walk or articulate without difficulty.

From the 11th of January to the end of February, she had a sulphur-bath every day; at the end of which time she was discharged, cured.

Relapse in chorea is very common: there is a girl in the hospital attacked with chorea for the fifth time.—*Gazette des Hôpitaux*.

CASES TREATED BY THE ENDERMIC METHOD.

Intermittent Fever.

M. CHOMEL tried the effects of sulphate of quinine by the endermic method, at the Hôtel Dieu. Numerous observations led to the belief that this salt might be absorbed and prevent the return of periodical attacks; the experiments of this practitioner have not only proved its efficacy, but have also proved that it sufficed to apply the medicament on the raw skin one or two hours before the invasion of the attack in order to prevent its return; while it is well known that a much longer interval is generally requisite when the medicine is given internally.

A man, aged 38, was received into the Hôtel Dieu, on the 21st of March. He had an intermittent fever which had lasted seventeen days; the first attack was caused by witnessing the sudden death of one of his companions. The fever came on towards eleven, and lasted till four.

The 25th March, at nine in the morning, two grains of sulphate of quinine were spread on a small blister applied to the epigastrium. The fit returned, but was delayed two hours and a half, and only lasted an hour and a half instead of five hours. Two grains more of sulphate of quinine were applied to the sore. The 27th and 28th March, no attack; sulphate of quinine was, however, given internally, and there was no further appearance of fever.

Another patient, with a similar complaint, was admitted into the hospital the 21st April; two grains of sulphate of quinine were applied the 25th, three hours before the supposed time the attack came on. No fever appeared. Two more grains were applied the following day, and four grains the day after; the medicine was then administered internally, and the man was cured.

In several other cases a stronger dose of quinine has been applied, and the effects obtained have been nearly similar. M. Chomel has always concluded by prescribing a few grains of sulphate of quinine to be taken internally.

Cancer of the Uterus.

Madame Detty, aged 53 years, admitted into La Pitié, under the care of M. Serres, having all the attributes of perfect health; married at 25; mother of five children; her labours were always severe; at the birth of her last child forceps were employed, and the infant was still-born. At the age of 51 she had a dartre (herpes) on the left fore-arm; sulphureous baths were ordered, and brought on an irritation in the interior of the womb, and an abundant menorrhagia. The treatment at the hospital Necker proved fruitless. The womb was explored through the speculum, in the course of July, 1824; there was hard schirrous unequal congestion on the neck of the uterus,—it bled on the slightest pressure; there was a white discharge, with a foetid odour; great difficulty in voiding the urine; the skin was yellow, and the flesh turgid and bloated. The patient grew worse in November; she was in agonies, rolled in her bed, and loudly invoked death as her only relief. Narcotics, the most powerful antispasmodics, strong doses of spirit of morphia, had no effect. The cruel sufferings were only allayed, and the blessing of sleep procured, by putting two grains of acetate of morphia on a seton. The application proved so soothing that her existence was prolonged till the 20th December, 1824, without any further suffering. This observation proves, that in cases where a cure cannot be hoped for, great advantages may nevertheless be found in external applications.

Rheumatismal Fever.

A young man, named Choubert, aged 24, a baker by trade, admitted into the Hôtel Dieu, was seized with such violent pains in all his limbs, that he could neither move nor sleep. The patient attributed his complaint to excess of fatigue in kneading bread, intense perspiration, and sudden cold after his hard work. On the fourth day after the appearance of the disease, the pains settled in the shoulder, the arm, and left elbow; the limbs affected were perfectly motionless; a continual burning pain; the patient lost his appetite, and his countenance bore an expression of sorrow and suffering.

The 10th March, a blister was applied to the arm, but gave no relief. The 13th, the surface of the blister was covered with half a grain of acetate of morphia. Spent a good night, slight pain, no function disturbed. The 14th and 15th, same medication, same effect. The 16th, one grain of morphia; complete relief; no change in the functions, excepting slight contrac-

tion of the eyelid. The 17th and 18th, the applications having been omitted, the patient spent two bad nights, and suffered considerably. The 19th, one grain of morphia; the patient quite calm, but cannot raise his hand. The same means continued until the cure was complete.

Asthma.

M. Loliot, aged 62, a farrier by trade, was admitted into the hospital Cochin, with an intense orthopnea; the sibilant rale was heard. The complaint was so violent that the patient remained seated, holding fast any object near him, his shoulders up to his ears, his head thrown back, mouth open, his neck stretched out, as if endeavouring to meet the air he longed to breathe. Bleeding having given only momentary relief, a draught containing six grains of musk was administered. Abundant perspiration, breathing easier, circulation less rapid: the dose was increased to ten grains, and the patient left the hospital cured. He went to his work for two months, at the end of which he returned to the hospital in the same state as before. A blister was applied to the arm, and, at the expiration of a week, it was covered with six grains of musk. A few hours after it was found to have precisely the same effect as if given internally. Abundant perspiration; after which, increased relief, and rapid disappearance of all accidents. Cure followed. —*Continent. and Brit. Med. Rev.*

CURE, AFTER EXCISION OF A PORTION OF INTESTINE.

BY PROFESSOR DIEFFENBACH.

A STRONG man, aged fifty, had suffered for fourteen days from strangulated inguinal hernia of the right side. Several ineffectual attempts at replacement had been made. At this time, Dieffenbach saw the patient. In addition to the usual symptoms, there was reason to suspect sloughing of the protruded parts, and escape of faecal matter into the hernial sac. An incision of about three inches in length was made into the swelling; when there escaped an ichorous fluid, with faecal matter, and portions of mortified intestine. The diseased intestine was drawn outwards, and three inches of it, which were partially mortified, softened and thickened, together with a corresponding portion of mesentery, were cut away. A small artery of the mesentery required to be tied, and the ligature was cut close to the knot. During this

process, the ends of the intestine were held by assistants. The angular incision in the mesentery was first united by ligature; and then the extremities of the divided intestine, by means of separate threads, so inserted as to bring the peritoneal coats alone into connexion. The mucous membrane was not perforated. The parts were then carefully replaced. Shortly afterwards, castor oil was administered, and repeated with some croton oil, until very large evacuations were produced. These were followed by great improvement in all the symptoms. Mild aperients and the antiphlogistic regimen were the only means required during the process of cure, which was complete in the fourth week after the operation.

The individual returned to his usual employment, which was laborious, and some weeks subsequently, after very hard work and the use of very indigestible food, he was suddenly seized with all the symptoms of intussusception, with which he died. Two diseased conditions were found within the abdomen. In the left lumbar region, a portion of small intestine had coiled around, strangulated and become adherent to, another portion of the same gut; above this, the ileum and jejunum were much inflamed, adherent, and covered with flakes of lymph, and contained a large quantity of excrementitious fluid, which was also found in the duodenum and stomach. The ileum, particularly near the strangulated part, was very much distended by this fluid. Beneath the strangulation, the intestine was empty and contracted, passing in this state to the right inguinal aperture, at which many convolutions were closely adherent. Whilst dividing the false membrane which united the intestine to the inner parietes of the abdomen at this part, a drop of pus was found surrounding a ligature. Here was the part of intestine which had been operated on. It was closely adherent to the abdominal parietes and the contiguous convolutions of intestine. On cutting it open, the extremities which had been joined together by ligatures were found to be connected by a smooth cicatrix, interrupted only by the situations of the ligatures, still suppurating. The ligatures were adherent, and their extremities lay in the cavity of the intestine. The portion of intestine beyond, about a span in length, terminated in the caecum. Nothing worthy of notice was found in the other organs.—*Wochenschrift für die gesammte Heilkunde*, No. 26, 1826; and *Brit. and For. Med. Rev.* No. 6, 1837.

TABLE I. — COLEOPTERA, OR T

Family and Genus.	Larval Species.	Authority.	Country.	Reference.
CARABIDÆ. <i>Sphodrus</i> .	Leucophthalmus, Lin.	Paykull.	Sweden.	Upsal Transac
DYTICIDÆ. <i>Dyticus</i> , Lin.	Marginalis, L.	Rev. F. W. Hope.	Middlesex.	Ent. Trans
DERMESTIDÆ. <i>Dermestes</i> , Lin. Perfect Insects. 1.	Three hexapod Larvæ.	Dr. Martin Lister.	England.	Phil. Trans. 160 x. p. 391; 8 Abridgement p. 224.
Case 2.	Murinus.	Otto.	England.	Otto's Comper translated by vol. i. p. 79.
Case 3.	Lardarius.	Otto.	England.	Ditto.
Case 4.	Lardarius.	Dr. Chichester.	Bath.	Edin. Journ. v
STAPHYLINIDÆ. <i>Pæderus</i> .	Elongatus, Fab. One example.	Paykull.	Sweden.	Nova Acta U vol. vi. p. 1
<i>Oxyporus</i> .	Subterraneus, Fab. One example.	Paykull.	Sweden.	Ditto, p. 1
<i>Staphylinus</i> . 1.	Splendens, Fab. Many specimens.	Paykull.	Sweden.	Ditto, p. 1
Case 2.	Politus, Fab.	Paykull.	Sweden.	Ditto, p. 1
Case 3.	Fuscipes, Fab. Very numerous.	Paykull.	Sweden.	Ditto, p. 1
Case 4.	Punctulatus, Fab. Several specimens.	Paykull.	Sweden.	Ditto, p. 1
SCARABÆIDÆ. <i>Geotrupes</i> . 1	Vernalis.	Van Bromell.	Sweden.	Nova Acta Up vol. vi. p. 9
SCARABÆIDÆ. 2	Species unknown.	Rosen.	Sweden.	Ditto, p. 10
<i>Melolontha</i> . 1.	Species unknown.	Lemaout.	France(?).	....
Case 2.	Species unknown. Some larvæ.	Dr. Depalse. Robin. Desvoydy.	France.	Journal de L'I tute.
TENEBRIONIDÆ. <i>Tenebrio</i> . 1.	Molitor, Lin. 2 grubs of mealworm.	Dr. Bateman. Mr. Oswald Allen. Dr. Shaw.	Yorkshire.	Vid. Edin. Me Surg. Journ. vo p. 43.
Case 2.	Molitor, Lin.	Mr. Oswald Allen.	Yorkshire.	Ditto, p. 44
Case 3.	Molitor, Lin. 2 perfect insects.	Forestus.	Brielle.	Foresti Opera, I c. 51.
Case 4.	Molitor, Lin. 2 Erucae of.	Tulpius.	....	Tulpilii Obser. Lib 2, c. 51.
Case 5.	Molitor, Lin.	Tulpius.	....	Tulpilii. Lib. 4, c
Case 6.	Molitor, Lin.	Dr. Kellie.	Scotland.	Edin. Med. et S cal Journ. vol 48.
Case 7.	Molitor, Lin. 2 perfect insects, & 50 larvæ.	Dr. Pickells. Dr. Thomson.	Ireland.	Coll. Phys. Ire vol. 5, p. 176.
Case 8.	Molitor, Lin.	Dr. Traill. Mr. Gleadow.	Lancashire.	....

Æ PRODUCING CANTHARIACIS.

ed or not.	Local Affection.	Sex.	Age.	Result.
Fig.	Stomach.	Female.	30 years.	Recovery.
oesel.	Chest.	Female.	Adult.	Recovery.
....	Chest.	Mary Jessop.	Adult.	....
....	Anus.	....	....	....
....	Anus.	....	....	....
....	Stomach.	Mary Gardiner.	14 years.	Recovery.
....	Stomach.	Female.	30 years.	Recovery.
....	Stomach.	Female.	30 years.	Recovery.
....	Stomach.	Female.	30 years.	Recovery.
....	Stomach.	Female.	30 years.	Recovery.
....	Stomach.	Female.	30 years.	Recovery.
....	Stomach.	Female.	30 years.	Recovery.
....	Stomach (?)	Boy.	6 years.	....
....
....	Stomach.	....	Infant.	....
....	Stomach.	Female.	....	....
e Fig. 1, vii. p. 48.	Abdomen & Navel.	Female.	Young.	Death.
7, p. 48.	Nose.	....	....	Recovery.
....	Stomach.	Female.	Young girl.	....
7, fig. 3.	Bladder.	Female.	50 years.	....
....	Nose.	Female.	....	Death.
fig. 8.	Intestines.	....	....	....
ellie's case.				
3, fig. 10.	Stomach.	Female.	....	Recovery.
....	Stomach.	Female.	....	Recovery.

PROFESSOR HIMLY.

THE celebrated chemist, Professor Himly, of Goettingen, was drowned on the 15th ult. in the most extraordinary manner. He was taking his morning's walk, and being absorbed in reflection, it is supposed, forgot his proximity to the river Leine, fell into it, and perished before any assistance could reach him. His loss to the scientific world will be irreparable.—*Times*.

ROYAL COLLEGE OF SURGEONS
IN LONDON.REGULATIONS RELATING TO THE LIBRARY
AND READING-ROOM.

THE library is open daily, Sundays excepted, to members and articulated students of the College, from ten till four o'clock, except during the month of August.

Other persons desirous of admission must make application, in writing, to the library committee, specifying their christian and surnames, rank or profession, and residence.

Tickets of admission are granted for six months, at the expiration of which time application must be made for their renewal.

Readers, taking extracts from any book, may not lay the paper on which they write on any part of such book; nor may any tracings be taken from any plate without the permission of the committee.

Books belonging to the College are not to be written upon; and any one observing a defect in a book, is requested to report the same to the librarian.

Readers, desirous of consulting works not in the library, are requested to communicate their wishes, in writing, to the librarian, in order that the same may be reported to the committee.

The admission tickets are not transferable.

The reading-room is open, to members of the College only, from seven until ten o'clock, on the evenings of Tuesday, Wednesday, and Thursday: but no person can be admitted after nine o'clock.

The reading-room is appropriated to the British and Foreign Journals, and works published or presented to the College within the preceding twelve months.

Members wishing to refer to books not in the reading-room, must furnish the Librarian with a list thereof before three o'clock of the day on which they will be required.

Works of great value, and particularly books of plates, can only be referred to in the day-time in the library.

All books taken out of the library for reference in the reading-room must be delivered back the same evening to the officer in attendance.

Every person, upon admission to the library or reading-room, is required to insert his name and address in a book provided for that purpose.

EDMUND BELFOUR,
Secretary.

March 1837.

LIST OF GENTLEMEN WHO RECEIVED
DIPLOMAS IN MARCH.

Edward Smiles, Newcastle-upon-Tyne.
Manby Nightingale, Bengal.
C. Hawkins, Montague Place, Montague Square.
W. H. Barnwell, Lisson Grove.
Charles Thomas Hamilton, London.
Henry Samuel, Mansell-street, Goodman's Fields.
G. Wallace Pinchin, Limerick.
James Gibson, Hull.
Charles Henry Rawlins, Agra, E. I.
John Abraham Jinkings, Hythe, Kent.
James Freeman Fletcher, Arundel.
John Lomas, Manchester.
Rich. Dunscombe Alleyne, Newcastle, Limerick.
Thomas Buck, Holwell, Leicestershire.
Thomas Mather Ashton, Ormskirk.
James Daly, Jamaica.
William Trew, London.
John Morris, Shucknall, Herefordshire.
William Atkinson, Leeds.
Emanuel Dommett, London.
Henry Smith, Allsop Terrace.
R. F. Ainsworth, Manchester.
John Spencer Pidcocke, Watford.
Charles Robert English, Bath.
Frederick Broadhurst, E. I.
John Morgan Puddicombe, Dartmouth.
W. Parry Lewis, Beaumaris, Anglesea.
Robert Hunter Semple, Islington.
Lawrence Bramley, Halifax, Yorkshire.
Isaac Earl Featherston, Newcastle-upon-Tyne.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Apr. 11, 1837.

Age and Debility .	82	Bowels & Stomach	6
Apoplexy . . .	8	Brain . . .	11
Asthma . . .	30	Lungs and Pleura	12
Childbirth . . .	2	Influenza . . .	11
Consumption . .	102	Insanity . . .	15
Convulsions . .	42	Liver, diseased .	7
Croup . . .	1	Locked Jaw . .	1
Dentition or Teething	14	Measles . . .	16
Dropsy . . .	16	Mortification . .	3
Dropsy in the Brain	14	Paralysis . . .	7
Dropsy on the Chest	1	Small-pox . . .	4
Erysipelas . . .	1	Sore Throat and	
Fever . . .	11	Quinsey . . .	1
Fever, Scarlet . .	8	Spasms . . .	2
Fever, Typhus . .	3	Thrush . . .	2
Heart, diseased . .	2	Tumor . . .	1
Hernia . . .	2	Unknown Causes	4
Hooping Cough . .	18		
Inflammation . .	61	Casualties . . .	5

Increase of Burials, as compared with }
the preceding week . . . } 204

NOTICES.

We shall be glad to have the drawing alluded to by Mr. Lee. It is quite unnecessary to transcribe the MS. Mr. Lee need take no trouble about the other point referred to.

Communications have been received from Mr. Morgan, Mr. Boulton, Mr. Adams, Mr. Beaumont, Mr. Heatley, Mr. Snowden, Mr. Brande, and Physiologicus.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, APRIL 22, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXI.

THERE yet remain for our consideration several pharmacological agents obtained from the order Leguminosæ, section Cæsalpineæ; and the first I shall notice is the bark of the

Andira inermis,

better known by the name of *Geoffroya inermis*, or the *Cabbage bark tree*. It is a native of Jamaica and other parts of the West Indies, attaining a considerable height, but having no great thickness. Its leaves are pinnate, and consist of from thirteen to fifteen pair of ovato-lanceolate acute leaflets. The flowers are paniced, with very short foot-stalks; the calyx is of a dark purple colour; the petals of a pale rose colour. This plant belongs to class *Diadelphica*, order *Decandria*, in the Linnean arrangement.

The bark of this tree is known in the shops by the name of *Cabbage bark*, *Worm bark*, or *Cortex Geoffroyæ Jamaicensis*. It occurs in long, thick, fibrous pieces, having a brownish ash colour, a resinous fracture, a disagreeable smell, and a sweetish, mucilaginous, bitter taste.

It has been analyzed by Huttenschmidt in 1824, who gives the following as its constituents:—

1. A peculiar alkali, called *Jamaicina*.
2. Yellow colouring matter.

490.—xx.

3. Gum.
4. Starch.
5. Wax.
6. Resin.

In the ashes he found carbonate and sulphate of potash, chloride of potassium, carbonate and phosphate of lime, magnesia, silicic acid, and oxide of iron.

Jamaicina is a brownish yellow crystalline substance, composed of carbon, hydrogen, nitrogen, and oxygen; soluble in water and alcohol, and possessing alkaline properties. Two grains of the acetate of this alkali given to birds (pigeons and sparrows) caused restlessness and trembling, and in half an hour violent purging.

In doses of thirty or forty grains the powder of this bark purges briskly, like jalap. In larger quantities it causes vomiting, fever, and delirium. Fatal accidents are said to have resulted from its imprudent use.

This bark has long been celebrated as an anthelmintic, especially against the large round worm (*Ascaris lumbricoides*.) The best mode of exhibiting it for this purpose is in the form of *decoction*, a formula for which is given both in the Edinburgh and Dublin Pharmacopœias. The method of making this preparation is simply to boil one ounce of the bark in a quart of water down to one pint. Of this we may give to an adult two fluid ounces for a dose. The dose of the powder of the bark is from a scruple to half a drachm.

In the event of an over dose we should wash out the stomach, administer vegetable acids, and purge with castor oil.

Tamarindus indica.

History —The tamarind does not appear to have been known to the ancient Greeks; at least no mention of it is made in their writings. We are indebted to the Arabians for its introduction: Serapion and Mesue being some of the earliest writers

in whose works it is noticed. We are told it received its name from *Tamar* (which, in Arabic, signifies dates, or fruit), and *Indus*, in reference to its origin. But, as Alston justly observes, why should it be termed fructus or dactylus indicus by the Arabs, since it grows in Arabia?

Botany.—The tamarind tree is a native of the East Indies, and is cultivated in the West Indies. Its height is from thirty to forty feet; the branches are spreading; the leaves are alternate, and consist of from twelve to fifteen pairs of small, oblong, obtuse, entire smooth leaflets, which are supported on short foot-stalks. The flowers are in racemes; the calyx consists of four deciduous yellowish sepals; the corolla is composed of three yellow petals, veined with red. There are nine or ten stamina; but of these the seven shorter ones are sterile, while the two or three others are monadelphous and antheriferous. The germen is oblong, the style tapering, the stigma obtuse. The fruit is a compressed pod, of from three to six inches long, and composed of a dry, brittle, brown, external coat or epicarp, beneath which is the fleshy reddish brown pulp (forming the sarcocarp) penetrated by strong fibres. Still more internal is a thin membranous coat, constituting the endocarp, and which incloses the oval brown seeds.

There is a remarkable difference between the fruit of the oriental and of the American tamarind pod: the former is six or more times longer than it is broad, and contains from eight to twelve seeds; the latter is not more than three times its breadth, and contains only from one to four seeds. As this difference is constant, Decandolle has separated the plants into distinct species, denominating the American species *T. occidentalis*.

Preparation.—There are two methods of preparing the fruit: one is, to deprive the pods of their shell or epicarp, and to pour hot sugar from the boilers on them; the other, and, according to Dr. Wright, a better method, is to put alternate layers of tamarinds and powdered sugar in a stone jar.

Chemistry.—The following are the constituents of tamarinds, according to Vauquelin.

Citric acid.....	9 40
Tartaric acid.....	1 55
Malic acid.....	0 45
Bitartrate of potash.....	3 25
Sugar.....	2 50
Gum.....	4 70
Vegetable jelly (pectine) ..	6 25
Parenchyma.....	34 35
Water.....	27 55

100·00

Copper is not unfrequently found; it is derived from the vessel in which the tamarinds are prepared.

Physiological effects.—Tamarind pulp allays thirst, is nutrient and refrigerant, and, in full doses, laxative. From this combination of refrigerant and laxative properties it is commonly termed a cooling laxative.

Uses.—It is adapted for febrile and inflammatory cases: in the former it is often taken with the double purpose of operating as a refrigerant, and acting gently on the bowels. An infusion of tamarinds forms a very pleasant cooling drink, as does also tamarind whey, the *serum lactis tamarindatum* of authors, which is prepared by boiling two pounds of milk with two ounces of tamarind pulp. This pulp is a constituent of the *confection of senna*, before described, and also of the *confection of cassia*. In the Dublin Pharmacopœia is a formula for a preparation called *infusion of senna with tamarinds*; the composition of which is not unlike Sydenham's "*potio cathartica lenitiva*." It is a more agreeable compound than the ordinary infusion of senna, but is given in the same dose. It is said, though I know not with what truth, that the addition of tamarinds to senna, or resinous cathartics generally, diminishes the purgative operation of the latter.

The dose of tamarinds is from two drachms to an ounce, or more.

Hæmatoxylon Campechianum.

Botany.—This tree is a native of Campeachy, and was introduced into Jamaica in the early part of the last century, where it is now, Dr. Wright tells us, "too common, as it has overrun large tracts of land, and is very difficult to root out." In its native soil it attains a height of 40 or 50 feet. Its leaves are pinnate, the leaflets being obovate, or obcordate. The flowers form numerous simple many-flowered racemes, which have a beautiful appearance: the calyx consists of five brownish purple sepals; the corolla, of five yellow petals. There are ten stamina, which are hairy at the base. The legume is flat and smooth, and contains three or four smooth seeds. In the Linnean arrangement the plant belongs to class *Decandria*, order *Monogynia*.

Preparation of the wood.—The stems are cut into logs, or junks, of about three feet long, the bark and alburnum of which are chopped off.

Properties.—As imported, these logs consist only of duramen, or heart wood: their colour externally is dark; internally, red. The wood is dense, admits of a fine polish, has a sweetish taste, and a pleasant odour.

Composition.—The constituents of log-wood are, according to Chevreul—

Volatile oil.

Hæmatoxyline (or Hæmatin).

Fatty, or resinous matter.

Brown substance, containing tannic acid.

Lignin.

Glutinous matter.

Acetic acid.

Various salts (phosphate, sulphate, and acetate of lime, acetate of potash, and chloride of potassium).

Oxides of aluminum, iron, and manganese.

Hæmatoxyline is a yellowish red crystalline substance, of a bitter, acrid, and slightly astringent taste. It is soluble in water, alcohol, and æther. Acids redden its solution, and alkalis give it a purple or violet colour. Alum causes a violet precipitate, and many metallic solutions, (as of tin and lead) a blue one. Gelatine produces with it flocculent reddish precipitate.

Physiological effects.—Logwood is a mild astringent. It does not so readily disorder the digestive organs as some other astringents, and hence its use may be continued for a longer time.

Modus operandi.—The colouring and tannic principles of this wood become absorbed, and are recognised in the urine. Dr. Percival mentions that, under the use of the extract of logwood, the urine of a female suddenly acquired a purplish red colour, which was deepened by the addition of sulphate of iron. After some days the secretion returned to its natural colour.

Uses.—Logwood has been employed in old diarrhœas and dysenteries, in passive hæmorrhages (whether from the uterus or lungs), and in leucorrhœa. It is usually given in the form of *extract*, in doses of from ten grains to half a drachm. By keeping, this preparation becomes exceedingly hard; and pills made of it are said to have passed through the body unchanged.

SECTION 4.—MIMOSEÆ.

We have now arrived at the fourth and last section of Leguminosæ, termed Mimoseæ. It contains only one genus requiring notice, namely *Acacia*, from one species of which we obtain an astringent officinal substance—namely catechu, while from several species is procured gum. I propose noticing, in the first place—

The gum-bearing Acacias.

The substances termed gum Arabic, Senegal gum, Barbary gum, &c., are obtained from thorny or prickly trees or shrubs, usually growing in dry sandy soils, often in situations where few other trees will grow. These plants are different species of *Acacia*, a genus which belongs

to class *Polygamia*, order *Monœcia*, in the Linnean arrangement.

1. *Acacia vera* (Willdenow).—This species is a tree of middling size, a native of Senegal and Egypt, and probably of all the intervening part of Africa. The younger branches are bent, and of a chestnut-brown colour. Both older and younger branches have two stipulary prickles, of from three to six lines long, at the insertion of each leaf. The leaves are alternate, and bipinnate, with smooth petioles: they consist of two pair of pinnæ, the lower of which are composed of from eight to ten pairs of linear-oblong, blunt, smooth, small leaflets. On the petiole between each pair of pinnæ is a gland. The flowers form round, thick, yellow heads, from two to five of which are found in the axilla of the same leaf. The peduncles are slender, and about as long as the petioles. The calyx is five-toothed, the corolla five-cleft, the stamens are numerous. The fruit is a smooth, flat, moniliform legume—that is, it is contracted at regular intervals, so as to form several roundish portions, each of which contains a single seed.

2. *Acacia nilotica* (Nees).—This tree is a native of Egypt and Arabia. It agrees, in many of its characters, with the preceding species, but its younger branches are pubescent; its leaves consist of from six to eight pairs of pinnæ, each of which is composed of from fifteen to twenty pairs of oval, oblong, smooth leaflets. The leaf-stalk has a gland placed near the first pair of pinnæ, and, as well as the peduncle, is pubescent.



FIG. 173.—*Acacia nilotica*.

Acacia Arabica (Roxburgh).—This is a native of Upper Egypt and of India. Ehrenberg regards it as a variety of the preceding. It is distinguished by the following characters:—the young branches are furnished with greyish hairs, the stipulary prickles are white and much longer, and the legume is covered with a short, thick, white felt.

FIG 174.—*Acacia Arabica*.

Besides the three species just described, there are others which yield gum, but which my time will not allow me to describe. Such are,

4. *Acacia Seyal* (Delile), a native of the deserts of Lybia, Nubia, and Dongala.

5. *Acacia tortilis* (Forskäl), found in Arabia Felix, Upper Egypt, and in the deserts just alluded to.

6. *Acacia Ehrenbergii* (Hayne), found in the same localities as the last species. According to Ehrenberg, the Bedouins in the deserts collect gum from this species.

7. *Acacia gummifera* (Willdenow), a native of the northern parts of Africa.

8. *Acacia Senegal* (Willdenow) grows in the interior of Africa.

Production.—Gum is an exudation from the bark of the trunk and branches, hardened by exposure to the air. It usually exudes spontaneously, but in some instances the exudation is facilitated by incisions. While speaking of the production of tragacanth, I mentioned the supposed cause and mechanism of this exudation. When the gum has been placed in warehouses, and has become dry, the pieces frequently fall to pieces with a crackling noise.

Definition of gum.—Under the name of gum, I include those vegetable principles which are wholly or partially soluble in water, or which swell up in this fluid, forming a viscid mixture, usually denominated mucilage; which are insoluble in alcohol, and which yield mucic acid when heated with nitric acid. Among druggists and merchants, however, the term gum is applied in a loose, arbitrary, and often erroneous sense; so that it is made to comprehend not merely the gums properly so called, but certain resins and gum-resins also. The want of an accurate definition of this term is shown by the following anecdote:—

The duty levied, according to act of parliament, on gums, is six shillings per

hundred weight, whereas scammony pays a duty of half a crown per pound. Now an attempt was made, a few years since, to import scammony at the lower rate of duty, by entering it at the Custom-House under the head of “gums;” and it must be admitted that it as well deserves this appellation as lac, copal, or mastic. The Custom-House officers, however, seized the parcel; the owners protesting against the legality of this proceeding. Ultimately, I believe, some of the leading drug-dealers were consulted as to the substances which ought to be admitted as gums. The result was, that scammony was adjudged to pay the higher duty. It is but right, however, that I should add that the opinion, or decision, as to what substances ought to be admitted as gums, was founded on commercial, and not on chemical considerations.

Physical properties.—Gums are solid inodorous substances, having a slightly sweetish taste. They occur in variable sized pieces, more or less coloured, and having a greater or less degree of transparency. Ehrenberg asserts that the characters of gum of the same species of plant are liable to considerable variation: thus the same tree may yield a transparent or an opaque, a light or a dark-coloured, gum.

Varieties.—The following are the leading characters of the principal kinds of gum with which I am acquainted:—

1. *Turkey or Arabic gum.*—This variety is probably the produce of *Acacia vera*. It occurs in rounded tears, or amorphous or angular pieces, varying in size from a pea to that of a walnut, or even larger than this; some of the pieces being transparent, others more or less opaque, from innumerable cracks extending through them. It has a glassy lustre, is white, yellow, or wine-yellow, and has no odour, or if any, an acid one. Its specific gravity varies from 1.316 to 1.482. It may be readily broken into small fragments. It is entirely soluble in water, the solution having the property of reddening litmus, and being feebly opalescent. The latter property is said, by Guerin, to be owing to a small quantity of insoluble nitrogenous matter present. The white pieces constitute the *gummi electum* of our druggists. On the continent they are called *gum Turic* (*gomme Turique*), from *Tor*, the name of a sea-port of Arabia, near the isthmus of Suez; while the red pieces are sometimes said to constitute the *gum Gedda* (*gomme Jedda*, or *Gedda*), so called after another port.

This variety of gum consists essentially of a substance which is soluble in water, and to which the term *Arabine* has been applied. When treated by boiling alcohol, gum Arabic yields some supermalate of lime, chlorurets of calcium and potas-

sium, acetate of potash, a matter analogous to wax, and chlorophylle. The ashes of this gum contain the carbonates of potash and lime, a little chloruret of potassium, oxide of iron, alumina, silicic acid, and magnesia. Vauquelin gives the following as the constituents of gum Arabic:—

Gum (<i>Arabine</i>)	97
Acetate and malate of lime, phos- phate of lime, and oxide of } iron	3
	100

2. *Gum Senegal*.—This variety is probably the produce of several species of *Acacia*, two at least—namely, *A. vera*, and *A. Senegal*. It occurs in larger tears than the last mentioned gum: on breaking these tears we frequently find large air-cavities in their centres. Occasionally we meet with whitish pieces, but for the most part they are yellow, reddish yellow, or brownish red. More difficulty is experienced in breaking or pulverizing this gum than gum Arabic, and its fracture is more conchoidal. The taste of this gum is similar to that of the last.

Guibourt distinguishes two varieties of this gum, one of which he terms *Gomme du Bas du Fleuve*, or gum Senegal, properly so called; the other the *Gomme du Haut du Fleuve*, or *Gomme de Galam*. The first is probably the produce of *Acacia Senegal*, while the second is procured from *A. vera*. There is but little difference between them: yet gum Galam has a greater resemblance to Turkey gum than Senegal gum has; the pieces are more broken, and therefore more brilliant, than those of gum Senegal, properly so called.

Those pieces of gum which have on some part of them a yellowish opaque skin or pellicle, constitute the *Gomme pelliculée* of Guibourt. The *Marrons de Gomme*, or *Gomme lignirode*, of the same pharmacologist, is also found in the Senegal gum of commerce: it consists of yellowish, or dark brownish pieces, which are difficult to break, opaque, and rough. Treated with water it partially dissolves, leaving, says Guibourt, a residue of gnawed wood (*bois rongé*). Guibourt states, that in most of the *marrons* he has found a large ovoid

cell, which had been the habitation of the larva of some insect; from whence he concludes that this substance is the work of an insect.

Gum Senegal, like gum Arabic, is completely soluble in water, and is, therefore, said to consist of *Arabine*. The action of Alcohol on it, and the composition of the ashes, are also similar to those of gum Arabic.

3. *East Indian gum*.—A considerable quantity of gum is imported from the East Indies. It is uncertain whether it is the produce of one or of several species. Many pieces agree in their physical and chemical characters with Turkey gum: probably they are the produce of *Acacia Arabica*, or of some neighbouring species. Others, however, are larger, redder, and more difficult to pulverize than Turkey gum.

I have received from Bombay three varieties: one, marked *Maculla best gum Arabic*, very similar to gum Galam; a second, marked *Mocha and Barbary gum*, in large, reddish coloured, rough tears; and a third, denominated *Surat inferior gum Arabic*, in smaller dark coloured tears.

Part of the gum brought from India may possibly be the produce of *Feronia Elphantum*.

4. *Barbary gum*.—This is probably the produce of *Acacia gummifer*. I have two varieties of Barbary gum: one (the *Gomme de Barbarie* of Guibourt) is in roundish or irregular tears, mixed with many impurities, imperfectly transparent, and of a dull yellowish colour, with a faint tint of green,—it is imperfectly soluble in water; the other kind (called *Mogadore gum*) is in small angular broken, mostly yellow pieces, which resemble fragments of Turkey gum.

5. *Bassora gum: Gummi Toridonnense*.—This gum occurs in variable sized pieces, which are whitish or yellowish, and opaque. When put into water, it swells up, and does not dissolve.

Adulteration.—Powdered gum is frequently mixed with flour or starch. The adulteration is easily recognized by the blue colour generated on the addition of iodine.

Composition.—The following are the ultimate constituents of gum arabic, according to three analyses:—

	Berzelius.	Prout.	Gay-Lussac and Thenard.
Carbon	41.906	41.4	42.23
Hydrogen	6.788	6.5	6.93
Oxygen	51.306	52.1	50.84
Nitrogen	a trace	0.	0.
	100.000	100.0	100.00

From these analyses we may deduce the following atomic proportions of the elementary constituents (excluding nitrogen):—

				Per Centage Composition.
13 atoms carbon	13×6	78	or	41·94
12 atoms hydrogen		12	or	6·45
12 atoms oxygen	12×8	96	or	51·61
1 atom gum arabic		186		100·00

The gums before mentioned are composed of one or both of two principles, which have been named *Arabine* and *Bassorine*. Arabine has been so called because it is the essential constituent of gum Arabic: its essential character is that of being perfectly and completely soluble in water. Bassorine, so called because it constitutes the insoluble part of gum bassora, is distinguished from arabine by its insolubility in water, and by its absorbing and swelling up in this fluid, forming a jelly-like mass. The relative composition of these two principles is thus stated by Guerin:—

	Arabine.	Bassorine.
Carbon	43·81	37·28
Hydrogen	6·20	6·85
Oxygen	49·85	55·87
Nitrogen	0·14	0·
	100·00	100·00

Chemical properties.—The essential chemical characteristic of gum is that of forming *mucic* (or, as it is sometimes termed, *sacclactic*) *acid*, when boiled with nitric acid. Soluble gum, or arabine, dissolves in both cold and hot water, forming a *mucilage*. If to this solution we add alcohol, the arabine is thrown down in white flocks, while the spirit retains the saline and earthy salts in solution. If a solution of the subacetate of lead be added to this solution, a white precipitate of gummate of lead (composed of one atom arabine and an atom of the oxide of lead) is immediately produced. Various other salts also precipitate mucilage; as silicate of potash. Persulphate of iron causes a gelatinous precipitate.

Physiological effects.—(a). *On animals generally.* The effects of injecting solutions of gum into the veins of animals (horses and dogs) have been examined by Viborg, Scheele, and Hertwich. From their experiments it appears that small quantities only can be thrown into the circulation with impunity. From half a drachm to one or two drachms of gum, dissolved in one or two ounces of water, disorder the respiration and circulation of horses,—while five or six drachms of gum give rise to an affection of the nervous system,

manifested by stupor and paralysis, or convulsions. Some of these effects (namely, those on the pulmonary and vascular system) may arise from the non-miscibility of mucilage with the blood, and its consequent mechanical influence in obstructing the capillary circulation of the lungs.

Gum is one of those substances the nutritive properties of which were examined by Magendie, who tells us, that if dogs are fed with it (or, indeed, with any non-nitrogenous principle) exclusively, they languish and die. The apes of South America are said to be very fond of gum.

(b). *On man.* Regnandot injected three drachms of gum, dissolved in three ounces of water, into the veins of a man aged 20 years. In half an hour the patient was very chilly, his pulse was small and quick, and he had three liquid stools. The chilliness was succeeded by great heat, and after fifteen hours an eruption appeared on the skin.

The nutritive property of gum, when taken into the stomach, is shown by a variety of facts. In the first place, it constitutes a considerable portion of several admitted and well-known articles of food. Secondly, it sometimes forms the principal or only food of man. Hasselquist tells us, that a caravan of more than a thousand persons, travelling from Abyssinia to Cairo, and whose provisions were exhausted, supported themselves for two months on the gum they were carrying as merchandize. Moreover, we are told that the Moors and Negroes live almost exclusively on it during the gum harvest, and the Bushmen Hottentots, in times of scarcity, support themselves on it for days together. Six ounces a day are said to be sufficient to sustain life in a healthy adult.

The local action of a solution of gum is that of an emollient, and (by its sheathing properties) demulcent. It is not known to possess any action over remote parts, though some have supposed it to have the power of diminishing irritation in the urinary organs.

Uses.—We employ gum in medicine for several purposes. It is sometimes slowly dissolved in the mouth to allay troublesome cough, and to diminish irritation of the fauces by diluting the acrid secretions and sheathing the parts from the action of the atmosphere. Powder of gum has been occasionally applied to check the hæmorrhage from leech-bites. A solution

of gum is given in pulmonary complaints, in diarrhœa and dysentery, and in gonorrhœa. In pharmacy it is employed in the preparation of pills, and for the purpose of suspending insoluble substances (as chalk, guaiacum, &c.) in water. The only officinal preparation of it is the *mucilage*, though it is a constituent of several other compounds.

Catechu.

The term Catechu is applied indiscriminately to various astringent extracts (I am acquainted with more than a dozen) brought from Asia (principally from Hindostan), and which are procured from various trees. The term by which these substances are designated is derived from two oriental words—*cate*, a tree, and *chu*, juice. It was formerly supposed to be a mineral production of Japan, and hence arose its name *Terra japonica*.

It is somewhat uncertain who first described Catechu. Garcias ab Orto was of opinion that it was the *λυκίον ινδικόν* of Dioscorides; but Dr. Royle has shown that the preparation referred to by the latter author is the produce of *Berberis Lycium*, and not of *Acacia Catechu*.

In ordinary language the terms Catechu, *Terra japonica*, and Cutch, are considered as synonymous; yet they are frequently employed in a distinctive sense. Thus to one astringent extract the name of Catechu is applied, to another *Terra japonica*, to a third Cutch, and to a fourth Gambier. I have not, however, found that uniformity in the use of all of these terms by dealers to be enabled to make much advantage of them.

The origin of some kinds of Catechu is tolerably well ascertained,—that of others is still obscure or doubtful. Let us commence with those whose origin is best known.

1. *Catechu of the Acacia Catechu.*

Botany.—The *Acacia Catechu* is a shrub or tree, growing in the mountainous districts of Bengal, Coromandel, and other parts of Hindostan. The bark is dark brown; the prickles are stipulary and acute; the leaves are bipinnate, and consist of from ten to thirty pair of pinnae, each composed of many pairs of linear pubescent leaflets. The flowers are hermaphrodite and male, in axillary, cylindrical spikes. The calyx is five-toothed; the corolla is five-cleft, or composed of five petals. The stamens vary in number from four to one hundred; there is one pistillum. The fruit is a brittle, thin, linear, brown pod, containing from six to eight seeds.

Preparation.—The manufacture of Cate-

chu from this tree, as practised in Canara and Behar, has been described by Mr. Kerr and Dr. Hamilton, while Dr. Royle has explained the process followed in Northern India. According to the last-mentioned gentleman, “the *Kutt* manufacturers move to different parts of the country in different seasons, erect temporary huts in the jungles, and selecting trees fit for their purpose, cut the inner wood into small chips. These they put into small earthen pots, which are arranged in a double row along a fire-place built of mud (*choola*); water is then poured in until the whole are covered; after a considerable portion has boiled away, the clear liquor is strained into one of the neighbouring pots, and a fresh supply of material is put into the first, and the operation repeated until the extract in the general receiver is of sufficient consistence to be poured into clay moulds, which, in the Kheree Pass and Doon, where I have seen the process, are generally of a quadrangular form. This Catechu is usually of a pale red colour, and is considered there to be of the best quality. By the manufacturers it is conveyed to Saharunpore and Moradabad, whence it follows the course of commerce down the Ganges, and meets that from Nepal, so that both may be exported from Calcutta.”

On examining Dr. Royle's specimens of Catechu which he saw prepared from the *Acacia Catechu*, I find them to be a variety of Catechu rarely met with in English commerce; indeed, I never found it but once in the shops in London. A drug-broker tells me it has not been imported for some years, on account of its bad quality. It is the kind described by Professor Guibourt, in the last edition of his *Histoire des Drogues*, by the name of *dull and parallopiped Catechu* (*Cachou terne et parallélopipède*), and which M. Antoine de Jussieu described as being *like the bark of a tree* (*Cachou en manière d'écorce d'arbre*). Moreover, there is reason to believe it is the kind which Davy (in his analysis of Catechu) calls *Bengal Catechu*.

Properties.—It occurs in square cakes, usually about two inches long, two inches broad, and one in thickness. Frequently these cakes are irregularly broken, so that it is difficult to trace their angular character. They are heavier than water. Externally their colour is dark brown, or blackish; internally we observe darker and lighter layers, disposed in a schistose manner, like the bark of a tree. The darker layers are brown and somewhat shiny,—the lighter ones are dull whitish red.

Composition.—The following is the composition of Bengal Catechu (probably this variety), according to Davy:—

Tannin	97
Extractive	73
Mucilage.....	16
Insoluble residuum	14

200

Davy found more tannin in the darker than in the lighter layers; this inequality of composition is probably owing to the extract being prepared without much agitation, whereby the less soluble separate from the more soluble parts.

2. *Catechu from the Uncaria Gambier.*

The *Uncaria* (or *Nauclea*) *Gambier* had been already alluded to, when noticing the natural order (*Cinchonaceæ*) to which it belongs. I may here just remind you, that it is a stout scandent shrub, a native of Pulo Pinang, Sumatra, Malacca, &c. It belongs to the class *Pentandria*, order *Monogynia*, in the Linnean arrangement.

The *Gambier* is the Malay name of an extract prepared from the young shoots and leaves of this plant. Mr. Crawford says it is termed *Gutta Gambier* (*gutta* signifying any gum), and hence, by corruption, the Indian appellation *Cutta Camboo*. This extract is also known by the name of *Bastard Catechu*, or more usually in the shops here simply by the denomination of *Catechu*. It is known to some of our wholesale dealers by its Malay name (*Gambier*.)

Preparation. — The mode of preparing *Gambier* has been described by Mr. Hunter, in the *Linnean Transactions*; by Dr. Campbell, and by Dr. Roxburgh, in the *Flora Indica*. Although these accounts agree in the main, yet in the details there are some differences, doubtless arising from variations in the process adopted in the different parts of India. Dr. Campbell has described the method of making the *circular* or *cylindrical* variety of *Gambier*, as followed in the colony established by the Sultan of Moco, where the manufacture is carried on to a considerable extent. It consists in shredding and bruising the young shoot and leaves “in water for some hours, until a feculum is deposited; this, inspissated in the sun to the consistence of a paste, is thrown into moulds of a circular form, and in this state the *Gambier* is brought to market.” Dr. Roxburgh describes the manufacture of the *cubical* variety, as practised eastward to the Bay of Bengal. The process consists in “boiling the leaves and young shoots; evaporating the decoction by fire and the heat of the sun. When sufficiently inspissated, it is spread out thin, and cut into little square cakes, and dried.” The account given by Hunter agrees with Dr.

Roxburgh's. The varieties of *Gambier* which I have seen, and which are either in my own museum or the collection of the Medico-Botanical Society, are the following:—

1. *Gambier in angular pieces.*—This variety includes three sub-varieties, namely, two having a cubical form, and one a square prismatic form.

(a.) *Cubical resinous Gambier.*—This is the kind described by Guibourt as *Cachou cubique résineux*. It is brought to this country principally from Singapore, and is known to our wholesale dealers and drug brokers by the name of *Gambier*; but druggists usually term it *Catechu in square cakes*, and reckon it a fine variety. In the collection of the Medico-Botanical Society, this kind is marked *Gambier of the second quality*.

The faces of these cubes are about one inch square. When thrown into water the cubes float, so that their specific gravity is less than this liquid. They are externally of a deep reddish or yellowish brown colour; their fracture is dull and porous, and internally their colour is paler than that of their surface, being yellowish cinnamon brown; the fractured surface not unfrequently presenting some darker feebly shining stripes, extending from without inwards. This kind has no odour; its taste is powerfully astringent, bitter, but subsequently becoming sweetish. It melts entirely in the mouth. When heated in a platinum crucible it undergoes a kind of semifusion, and swells up; and when incinerated leaves a light white ash. Nees says twenty grains of this *Gambier* leave only half a grain of ash. When digested in cold water it almost wholly dissolves, leaving behind a resinous substance, fusible in boiling water, and soluble in alcohol. The following are the constituents of this kind of *Gambier*, according to Nees von Esenbeck:—

1. Tannin, soluble in water, alcohol, and æther, and which forms a green colour with the salts of iron; the quantity being from 36 to 40 per cent.
2. A resinous tannin, insoluble in cold water, and which acts on the salts of iron, but not on gelatine.
3. A tannic deposit, similar to red cinchonic.
4. Gum.

(b.) *Cubical amylaceous Gambier.* — This kind I have received from Professor Guibourt, who calls it *Cachou cubique amylicé*. It is in cubes, which swim in water, and whose faces are about half an inch square. Externally these cubes are dark brown, being darker coloured than the kind just described. Its fracture is dull and porous, its colour internally being pale cinnamon

brown. It is readily distinguished from all other kinds of Gambier, by the black colour producēd when the tincture of iodine is applied to the fractured surface. When digested in water it is resolved in two parts—

Matter soluble in water	45
Matter insoluble in water, princi- pally amylaceous	55
	<hr/> 100

Doubtless, therefore, in the manufacture of this substance, some kind of amylum is mixed with it. I have been told sago is the substance employed.

(c.) *Prismatic gambier*.—I have seen some pieces of gambier in the collection of the Medico-Botanical Society, marked *gambier of the second quality*. Their form is that of right-square prisms, the length of which is two inches, the size of the terminal faces being something less than half an inch square. In other respects the characters agree with the *cubical resinous gambier*.

2. *Circular or cylindrical gambier*.—This is not a common variety here. It occurs in short cylindrical pieces, the length of the cylinder being only about 1-3rd of an inch, while its diameter is $1\frac{1}{4}$ inches. One of the round surfaces is marked with the fibres of a cloth, on which the cakes have been dried. The colour internally is pale, dull, pinkish yellow, externally being a shade darker. Its fracture is dull and porous. It is easily scraped to powder with the nail, and in this state has a chalky feel. Its taste is astringent, but less so than the other kinds: it is gritty under the teeth. It sinks in water.

The samples of *circular, or cylindrical gambier*, in the collection of the Medico-Botanical Society are marked *gambier of the third quality*: it is composed of cylinders, whose lengths and diameters are somewhat smaller than the kind just described.

3. *Small, circular ornamented gambier*.—At the Medico-Botanical Society this kind is marked *gambier of the first quality*. Its form is something like that of a plano-convex lens, slightly flattened on the convex side. One of its surfaces is flat, round, about half an inch in diameter; the other one is convex, with a little depression in the centre, and a number of raised, semi-cylindrical lines dispersed around it, like rays. The colour of this variety is similar to that of the last.

3. *Catechu, from the Areca Catechu.*

The Areca Catechu has been before referred to when noticing the family of Palms. It belongs to the class *Hexandria*, order *Trigynia*, in the Linnean arrangement.

From its seeds (called in the shops the *Areca* or *Betal nuts*) are manufactured two kinds of catechu. The mode of preparing them is thus described by Dr. Heyne, in his *Tracts Historical and Statistical on India*: —“Areca nuts are taken as they come from the tree, and boiled for some hours in an iron vessel. They are then taken out, and the remaining water is inspissated by continued boiling. This process furnishes the *Kassu*, or most astringent terra japonica, which is black, and mixed with paddy husks and other impurities. After the nuts are dried they are put into a fresh quantity of water, boiled again; and this water being inspissated like the former, yields the best or dearest kind of catechu, called *Coury*. It is yellowish brown, has an earthy fracture, and is free from the admixture of foreign bodies.” In Mysore, about Sīrah, a great quantity is made.

I have received two kinds of catechu from Bombay, which agree with the description here given of Kassu and Coury: it is probable, therefore, they are the substances alluded to.

1. *Brown catechu in round flat cakes*.—*Cachou brun, orbiculaire et plat* (Guibourt). *Kassu* (Heyne)?—This variety (which is sometimes absurdly termed *Colombian catechu*), occurs in round flat cakes, whose diameter is from two to three inches, and thickness seldom so much as one inch. Their weight is from two to three ounces. They are covered on one side with the glumes of rice, and on fracturing them we find the rice-glumes internally also. The colour of these cakes externally is dark rusty brown; internally, blackish, brown, and shining.

There is another kind of catechu, which I believe to be only a sub-variety of the above. We might term it *brown catechu in balls*. It is in balls, (more or less flattened in drying), varying in size from that of a walnut to that of a small orange, covered partially with rice-glumes. In colour, &c. it resembles that variety in flat cakes.

2. *Pale catechu*. *Coury* (Heyne)?—I received this variety from Bombay, under the name of *Katha suffaid* (i. e. *pale* or *white catechu*). It is in lumps, which vary in size from a walnut to that of a small apple. The general form is rounded or oval, and somewhat flattened, the surface being very uneven, and of a dark or blackish-brown colour. Internally this variety is dull, and of a very pale colour. Guibourt says it is almost white; but it has a pale-yellowish or brownish-red tint. Its taste is bitter, astringent, and sweetish, with a smoky flavour. Hence, perhaps, the dark colour externally is derived from the masses being dried, or exposed to the smoke of a fire.

4. *Catechu of the Butea frondosa.*

I have already alluded to the reasons which have induced Professor Guibourt to believe that the *Butea frondosa* yields one of the varieties of catechu of commerce: reasons, however, which I confess are not completely satisfactory to me. I shall take this opportunity of describing the variety of catechu alluded to.

Catechu enveloped in leaves of Butea frondosa. The *Cachou en masse*, or *Cachou lucide*, of some authors. *Cachou du Butea frondosa* (Guibourt).—This variety is imported in masses weighing a hundred weight, or more, and made up of quadrangular prismatic pieces, of six, eight, or ten inches long, and two or three inches square, each piece separately enveloped by the leaves of *Butea frondosa*, but the whole adherent together, so as to form one mass. When fractured, these pieces present a dark blackish-brown shiny surface, free from all impurities; some of the pieces, however, having a more reddish tint than the others. Fée states, though I know not on what authority, that this variety contains 57 per cent. of tannic acid.

I have met with, in commerce, *Catechu* presenting internally the same shiny blackish-brown colour, and other physical characters of the above kind of catechu, but which was in round balls, or flattened cakes, partially covered with glumes of rice.

5. *Catechu whose origin has not been ascertained.*

Besides the varieties of catechu before described, there are others, of whose origin we are less certain.

1. *Brown siliceous catechu* (*cachou brun siliceux*) of Guibourt. *Terra japonica* of druggists. It is in round or flattened masses, varying in weight from two or three ounces to several pounds; externally, it is of a dull dark brown or rusty colour, internally being shiny and blackish brown. It is very heavy, and contains a large quantity of fine sand. Guibourt says 100 parts of this catechu yielded him 26 parts of earthy matter. But some of the specimens contain a much less portion of earthy matter. This is probably the variety analysed by Davy as Bombay catechu, the constituents of which, he says, are—

Tannin	109
Extractive	68
Mucilage	13
Insoluble residuum	10

200

2. *Black and mucilaginous catechu.*—Under this name I received a specimen from Professor Guibourt, which is in parello-

piped cakes, black and shiny internally, not very dissimilar in appearance to the extract of liquorice. It is of bad quality.

3. *Dull reddish catechu in balls.*—This is the *Cachou en boules, terne et rougeâtre*. I observed a specimen of it in the collection of the Medico-Botanical Society, marked *American catechu*. It occurs in flattened balls, weighing three or four ounces, covered on one side with glumes of rice. Its fracture is dull, reddish, wavy, and often marbled. It is of good quality.

Chemistry of Catechu.—I have before referred to analyses of some of the kinds of catechu, and I may here, therefore, speak of some of the constituent principles separately.

1. *Astringent principle of Catechu: Tannic acid.*—The presence of tannic acid in catechu is shown by the astringent taste, and by the infusion of this substance striking a green colour with the salts of iron, and producing a copious precipitate with solutions of gelatine. The mineral acids added to this infusion form insoluble compounds with the tannic acid. Certain salts also precipitate it, as acetate of lead and tartar emetic.

It is this principle (tannic acid) which renders catechu so useful as a substitute for oak bark in the process of tanning. There is a patent method of using this article, now extensively followed, by which calf-skins are tanned in two days, hides in seven to twelve days. The delay which has occurred in employing this long-known astringent substance is ascribed, by the late celebrated S. T. Coleridge (*Church and State*, p. 115), to the influence of the landed interest of this country with the East India Company.

According to Runge, catechu contains a crystallizable compound of tannic acid with an unknown base. By digesting catechu in æther, and allowing the solution to evaporate spontaneously, we obtain this crystalline tannate. It is soluble in water, alcohol, and æther; is fusible, and does not precipitate gelatine, unless an acid be added to saturate the base.

2. *Extractive.*—This is the *oxidized tannin* of some authors. It colours the salts of iron green, but does not precipitate solutions of gelatine.

3. *Gum.*—If alcohol be added to an infusion of catechu, the gum is thrown down.

Physiological effects.—The local action of catechu is astringent, owing to the tannic acid which it contains; its remote operation is tonic. Having, in a former part of the course, described to you the effects produced by the vegetable astringents generally, it will be unnecessary to say any thing further with respect to the operation of catechu, seeing that it is the same as that of any other tannic substances.

Uses: 1. *In affections of the mouth and throat.*—In various affections of the mouth and throat I have frequently employed catechu, and found it a convenient and efficacious astringent. Thus in relaxed uvula, and in that slight chronic inflammatory affection of the throat usually denominated the relaxed sore throat, and which is especially observed in delicate females, catechu, chewed or sucked as Spanish liquorice, is a most useful remedy. We must be careful in selecting the purer kinds of catechu, especially avoiding those that are gritty. The pale catechus are usually sweeter and more pleasant for chewing. For public speakers or singers also it is a useful remedy: it prevents or diminishes hoarseness, consequent on frequent use of the vocal organs. In slight ulcerations of the mouth also it is useful.

2. *As a stomachic in dyspeptic complaints.*—I have known catechu chewed with advantage in dyspeptic complaints. It should be used just before taking food: it promotes the appetite and assists digestion.

3. *As an alvine astringent* it may be employed in the diarrhœa of old persons, when there are no inflammatory symptoms present.

4. In hæmorrhages also it is used.

Administration.—We may give the powder of catechu in doses of ten grains to half a drachm. The compound infusion of catechu contains, besides catechu, cinnamon: the dose of this preparation is one or two ounces. The tincture of catechu is a very useful addition to chalk mixture, in old diarrhœas: its dose is one or two drachms.

ON THE
COMBINATION OF MOTOR AND
SENSITIVE NERVOUS ACTI-
VITY;

OR, ON THE

PRODUCTION OF SENSATIONS BY MOTIONS.

BY PROFESSOR STROMEYER,
Hanover.

Translated from the "Göttingische Gelehrte
Anzeigen,"

With Additions, communicated by the Author,
W. LITTLE, M.D.

AMONG the doctrines for which we are indebted to the discoveries of modern physiologists, few are so capable of exciting the universal interest of medical practitioners as the theory announced by Dr. Marshall Hall—namely, that the

motions which arise through excitation of the sensitive nerves, are not the result of direct connexions of motor and sensitive nerves but arise through the medium of the central organs of the nervous system. Besides the evidence from the experiments brought forward by the illustrious English physiologist, the truth of his theory has been admitted with the less difficulty, owing to the conviction obtained by tracing the primitive fibres of the nerves—that their apparent connexions consist only of juxta-positions.

Anatomy and experimental physiology have thus mutually assisted one another in overthrowing the old notions of the sympathies. When we regard, however, the brain and spinal marrow as the mediators between sensations and their resulting motions, we might be led to believe that the doctrine of reflection can be of little utility to pathology, because it might be supposed that *each* nerve of sensation is connected with *every* motor nerve. But experience teaches us that local excitement is followed by universal reaction in states of highly augmented sensibility of the nervous system only—for example, tetanus after a slight wound; and that under the ordinary degree of sensibility, the reaction is limited to those motor nerves which arise very near to the sensitive nerve in the central organ; thus, for instance, the pupil contracts by the stimulus of light through reflexion from the nervus opticus upon the nervus oculomotorius. By accurate investigation of the laws according to which these reactions take place during health, important results will be derived to pathology, and at all events the hitherto completely vague conceptions of the sympathies will be rendered clear.

I have been fortunate enough, through accident and subsequent meditation, to detect another law of the functions of the nerves, which promises so rich a harvest to physiology and pathology, that I do not hesitate to submit it at once, in its present state, to publicity. In my small work on Paralysis of the Inspiratory Muscles*, I have already announced the supposition, that in coxalgia the accompanying pain about the knee results from the contraction of

* "Ueber Paralyse der Inspirations Muskeln." Hanover, 1836.

the *psoæ* and *iliacus* muscles, which is constantly present after the first stage of that disease. I was led to this idea by reflecting upon the presumed connexion of the *nervus saphenus superior*, (distributed to the seat of the pain), with the symptoms of *coxalgia*. As this pain of the knee is observed as well during the stage of elongation of the limb as during that of shortening, it follows that it must depend upon some symptom common to both stages. This symptom is the flexion of the femur at the hip-joint, through the constant contraction of the *psoæ* and *iliacus*, the flexors of the thigh. If this conjecture be correct, pain in the knee must occur from every circumstance which induces a continued contraction of the *psoæ* and *iliacus*. In addition to that contraction of these muscles which arises from the excitement of an inflammatory process, such as *coxalgia*, their permanent shortening may also be excited by paralysis of their antagonists. As regards the motions of the vertebral column, the *longissimus dorsi* and *sacrolombalis* are the antagonists of the *psoæ*. In the above-mentioned little work I have detailed a case at length, in which a considerable lordosis of the lumbar vertebræ had arisen from paralysis of the *longissimi dorsi* and *sacrolumbales*, the curvature forwards of the spinal column depending necessarily upon constant contraction of the *psoæ* only;—hence, in this lordosis, the violent pain of the knee, without apparent local symptoms.

In the motions of the thigh, the *glutæi* are chiefly to be regarded as the antagonists of the *psoæ* and *iliacus*. I have recently had the good fortune to meet with a case of paralysis of the *glutæi*. Mrs. R——, about 50 years of age, of good constitution, fell down in November, 1835, (through stepping upon a piece of soap in a recently scoured apartment), and struck the floor with the right nates. She was unable to rise, and could not move the right leg in the least; the left was likewise nearly immoveable during the first few days. Paralysis of sensation was absent from the commencement. She was able to move the right limb at the hip-joint after the lapse of four weeks, and from that time the right hip was drawn somewhat upwards during the night, and the thigh was flexed at the hip, so that in the morning the right limb was four inches shorter than the opposite one.

The patient had at the same period also, when she stood upon the sound limb, a feeling as if something was unwinding itself within the pelvis, and very gradually, whilst that feeling continued, the injured obtained the length of the sound limb. Still she was unable to stand upon it, chiefly because, as she described, the heel did not *feel* the ground, but appeared to tread upon an elastic spring, or upon a bladder filled with water. From the moment that the power of flexing the hip returned, and the limb became shortened during the night, the patient complained of the most acute pain of the knee, which occasioned her to take little notice of any other symptom; the knee itself was not visibly affected. It was in February, 1836, that I was first consulted.

When she had trod upon the foot of the sound side, she was also able to put the injured limb to the ground: she persisted, notwithstanding, in stating that she had not the sensation as of the heel touching the ground. Both legs were of equal length; the hips and trochanter stood at the same height on both sides, and the hip-joint was not painful on application of the firmest pressure; the buttock of the injured side was quite flaccid, its fold was lower than that opposite, and the patient could not produce contraction of the *glutæi* through the influence of the will. The muscles of the posterior part of the thigh and those of the calf were strikingly lax. The patient could perform rotatory motions of the thigh, slightly bend the knee, and move the foot. In attempting to walk, however, all feeling of power was wanting in the right leg. The treatment had chiefly consisted of tonics internally, and frictions. The explanation of this case was not difficult. The total loss of motor power in the right limb, and in the left during the first few days, was the effect of a concussion of the spinal marrow, the consequences of which ceased in a few weeks, but that paralysis of the *glutæi* still remained, which arose from the local contusion and commotion, as well as the imperfect paralysis of the muscles supplied by the compressed and contused sciatic nerve. The *psoæ* and the *iliacus* could not possibly have been palsied from any other cause than the concussion of the spinal marrow; they recovered, therefore, first. Their action, not being counteracted by the *glutæi*, drew the

hip upwards, flexed the thigh at the hip, and thus induced, according to my opinion, the violent pain at the knee.

The treatment which I adopted consisted in the application of blisters along the course of the *nervus ischiaticus*. In three weeks' time the nates had acquired the natural rotundity, the patient had regained the power of voluntarily contracting the *glutæi*, and the pain of the knee had entirely ceased. The nightly shortening of the leg never recurred; and although in the morning the thigh was flexed, the patient could extend it without the sensation of unwinding in the pelvis; consequently not merely by the weight of the limb, but through the action of the *glutæi*. The muscles of the entire limb had increased in bulk, yet they did not fully obey the direction of the will; for in attempts to tread upon the right (the injured) foot, the sole had not the sensation of touching the ground. Nevertheless, frequent formations, and slight startings of the entire limb, indicated the probably speedy and complete restoration of the voluntary motion. The patient had, it is worthy of remark, the same sensations in the sole of the foot, and in the whole of the limb, when they were touched, as in the sound side: if she, however, did not feel the treading upon the ground, the sole of the foot was only deficient in that peculiar innervation of the cutaneous nerves, which, according to my theory, is the attendant and consequence of voluntary muscular exertion.

There is another case possible, in which contraction of the *psoæ* and *iliacus* might arise,—their paralysis on one side. Experience will teach us whether this state of things also would produce pain in the (opposite) knee; it appears to me, however, more probable, that pain would be felt at some other spot of the affected or paralyzed side; for the innervation of the two extremities is, upon the whole, so separate, and the nervous activity, therefore, in perfect equipoise, that it would not so essentially increase in the *psoæ* of the sound side, so as to produce their contraction and consequent pain in the knee on that side, which would be the case if cause and effect resided in the same side of the body, as in the above related case.

I have recently met with another case, which in a very interesting manner il-

lustrates this point. It is that of a tall spare youth, affected with coxalgia, presenting the flexion of the thigh, and pain at the knee, from the contraction of the *psoæ* and *iliacus*. This youth's leanness and flaccidity of tissue enabled me to feel the tendon of the *psoas* and *iliacus* at its insertion into the lesser trochanter. Each time that I touched, or slightly pressed, the tendon of the muscles, he complained of increase of pain in his knee.

If the proposition were fully demonstrated, that immoderate contractions of the *psoæ* and *iliacus internus*, or of the *psoæ* alone, can induce pain at the knee, we must deduce the very interesting conclusion, that the excitation of motor nerves produces simultaneous excitation of sensitive nerves; or that through excess of voluntary or involuntary motion, pain is felt in filaments of sensitive nerves not distributed to the muscles themselves which are in action. We might at first sight be inclined to explain the connexion of contraction of the *psoæ* with pain in the knee, by mechanical compression; but, setting aside that purely mechanical explanations of pathological phenomena seldom deserve much confidence, there are other cogent objections. In fact, we cannot conceive the occurrence of compression of the *nervus saphenus superior* by flexion of the femur; it would be much more likely to occur during extension. But it is well known, that in coxalgia the pain in the knee becomes constantly more severe, in proportion to the increase of the flexion of the thigh; whereas the flexion must diminish the pain, if it depended upon compression of the nerve. Nor can we suppose the existence of an inflammation of the *nervus saphenus superior*; at any rate not in those cases in which contraction of the *psoæ* and *iliacus*, with pain of the knee, results from paralysis of the antagonists of those muscles. We find ourselves, therefore, obliged to admit a more dynamic cause of the knee pain. This consideration leads very easily to the supposition that the increased innervation of those muscles which are urged to too constant contraction, produces an increased centripetal streaming (of the nervous matter or principle) in those nerves of sensation more immediately connected with the motor nerves of the muscles.

As, therefore, according to the doctrine

of reflex motions after sensations, it is believed that, through the intermedium of the brain and spinal marrow, certain motions follow certain sensations, in like manner the abstract of my new theory is, "*that certain motions produce certain sensations through the intermedium of the brain and spinal marrow.*" Those physiologists who but recently have conceded the truth of the doctrine of reflexion, will, at first view, find this new idea very repugnant, as it seems to imply that centripetal currents can take place in the motor nerves, and centrifugal in those of sensation; which would be in opposition to all experience and innumerable experiments. It depends, however, only upon the nature of our conception of the manner in which the various roots of the motor and sensitive nerves are excited. Precisely as in acceleration of the arterial stream of blood the current in the veins must be hastened, is it in the case of the nerves. As the heart acts propulsively upon the arterial blood, and attractively upon the venous, in like manner a similar principle may be in operation in the currents of the nervous fluid; the activity of which principle can never be increased in one direction only, but simultaneously excites increased motions both in the sensitive and motor nerves. I do not mean to say, however, that I consider the motion in the nerves circulatory, for anatomy hitherto does not support the direct connexion of the filaments of nerves of different nature at their peripheral extremities, and the example of pain in the knee, from contraction of *psoæ*, is much opposed to it, as we cannot conceive a circulation between the motor filaments ramified in those muscles and the sensitive filaments distributed about the knee. But if we compare the connected motor and sensitive nerves to a line passing over a pulley and supporting at each end an equal weight, and regard the pulley as the point in the central organs where the two nerves act upon one another, we may conceive that, as any tension exercised upon one point of the line will set it into motion throughout its whole length, in the same way centrifugal currents of the motor nerves will excite centripetal currents of the sensitive nerves, and, *vice versâ*, centripetal currents of the sensitive will induce centrifugal of those of motion.

If my theorem be proved to be correct, Marshall Hall's expression, "reflexion" indicative of the re-action of motor nerves upon excitation of those of sensation, however appropriate it appears to be at first view, will be inapplicable; as it, according to the recognised laws of the transmission of the nervous principle in motor and sensitive nerves, appears to exclude the reflex operation of motor upon sensitive nerves.

We shall have considerable hesitation in re-adopting the vague term *sympathy* for these re-actions, as it reminds us too strongly of the *nervus sympathicus*, through the agency of which these phenomena were sought to be explained formerly. Until some one conceives a more explicit expression, to indicate the reciprocal operation of motor and sensitive nerves through the medium of the central organs, I propose the term *combination of motor and sensitive nervous activity*. It has the advantage of defining no particular idea concerning the nature of the nervous currents, and therefore no false notions can be induced. I can almost believe that a too definite idea of the kind I allude to hovered in the mind of the English physiologist (Marshall Hall), or he would probably have been led to the investigations which I now introduce to the public. Should my theorem be adjudged correct, it will prove that our inductive knowledge arising out of the elaboration of the physical laws of the nervous system, is not yet so far advanced as Johannes Mueller appears to think; and that, independent of the known laws of nervous activity, a wide field remains open to the spirit of observation.

It would be very difficult to demonstrate, by experiments upon animals, the truth of the proposition that every motion is followed by certain sensations, because we cannot *perceive* sensations in brute creatures, as we can motions. I am, therefore, convinced that human physiology will in time afford the most satisfactory confirmation of this doctrine, as man alone is able to express himself clearly with respect to his sensations.

[To be continued.]

ON THE
SENSE OF TASTE:

INCLUDING AN ANSWER TO SOME CRITICISMS BY THE EDITORS OF THE MEDICO-CHIRURGICAL REVIEW.

To the Editor of the Medical Gazette.

SIR,

You will do me a favour by inserting the following remarks at your earliest convenience.

I have perused with much gratification the notice taken, in the last number of the Medico-Chirurgical Review, of the experiments upon the sense of taste, which I lately offered to the profession. I feel indebted to the Editors for the judgment which they have formed of the spirit and mode in which my investigations were made and communicated; and I therefore trust that they will not mistake my motive, if I point out to them certain misconceptions into which they appear to me to have fallen, with regard to my experiments, and if I further, in a spirit of temperate inquiry, offer some observations upon the inferences which they have themselves drawn from them. I am induced to do so, because it seems to me that the facts which I have brought together, and the conclusions which I have founded upon them, do, if their validity be admitted, bring us nearer to the goal with regard to the nature and relations of the sense of taste; while, on the other hand, if either my experiments be incomplete, or the conclusions which the Editors have advanced be admitted, we are thrown back again nearly to the position in which we were before. I am, therefore, anxious to establish the adequacy of my data, believing, as I do, that they are not open to the objections which have been made to them.

The Editors of the Review object that my experiments are not complete, because I have not divided the nasopalatine nerves alone, without at the same time dividing the lingual branches of the fifth—that, “to render the deductions unexceptionable, I should have divided the latter nerves—the nasopalatine—*per se* ;” and their concluding observation is, “that it is a subject of well-founded regret, and not a little astonishment, that the experimenters on

this subject did not begin by ascertaining, with something like precision, the respective powers of different parts of the mouth in regard to taste, before they attempted to determine the quota contributed by different nerves.” Were these objections well founded, as applied to my investigations, the latter would certainly be incomplete; but, unless I mistake their meaning, they are without foundation; so much so, indeed, that if the Editors will do me the favour to peruse my original paper, as published in the Dublin Journal, I am confident they will admit that they have passed unmerited strictures upon it. With regard to the first, I have stated—“It should be known, in order to complete the latter inference, that as, on the one hand, when the lingual branches alone are cut, taste seems unimpaired, so, on the other, the same result is obtained when the palatines are the nerves divided—a fact which I have had an opportunity of witnessing in the course of the preceding experiments.” It is manifest, then, that the defect objected does not exist, and that the Editors must have written under the influence either of an oversight, or of imperfect knowledge of the contents of my communication; the latter of which is the more probable, since they quote from the abstract published in the MEDICAL GAZETTE, and not from the original. With regard to the second ground of objection, I am rather at a loss for its intended meaning, inasmuch as the word “respective” implies either particular or relative; but in whichever sense the word may have been used, I think the stricture undeserved; for, on the one hand, I have expressly stated what the powers of the different parts of the mouth individually with respect to taste are, and to determine what they may be relatively “with something like precision,” is, I fear, beyond our power: we may ascertain, as is already known, that the sense is more acute in one part than in another, but I know of no means by which we can determine or reduce to rule the precise proportions in which it is enjoyed by the several parts as compared together, and in this view I am borne out by the opinion of the Editors, who admit that “the exact proportions of the sense possessed by different parts of the mouth and fauces are not ascertained. *Probably they vary*

much in different animals, and experiments on one species are not conclusive with regard to others." Nay, I would even go farther, for I do not hesitate to say, that experiments on individuals of a species are not conclusive in this respect with regard to others of the same. Again, were the thing possible, it would not have concerned the inquiry which was the object of my paper, and which was to determine, not the quota contributed by different nerves, but which the nerves were which contributed a quota to all. Doubtless I have been led in the course of inquiry to attribute, in certain cases, more to certain nerves than to others, but the Editors cannot fail to perceive that such conclusions were only incidental, and that they arose, without design, from the circumstances of each case furnishing, perhaps I might say, the natural and most unexceptionable data for establishing hereafter such a rule as that which they desire. The purpose of my inquiry, then, being to determine which the nerves of taste were, and not its proportions, the Editors will, I hope, allow that the objection under consideration does not affect the validity either of my experiments, or of the deductions which I have drawn from them.

I would in the next place offer a few observations upon some of the opinions which the Editors themselves have advanced, and this, I repeat, I do purely in the spirit of inquiry, and in the hope that it may bring us nearer to a settlement of the question at issue. They infer, "that as the gustatory supplies that portion of the tongue where taste is in its perfection, it must be the nerve of taste." In this I cannot concur: the only conclusion which, in my opinion, is justified by the premises, is, that the gustatory, so called, is a nerve, or the principal nerve of taste; and this because I know already that the other nerves distributed to the organ are not media of its perception. If it were the nerve of taste, would the sense continue after the division of it on both sides? Surely not; and such division produces hardly, if any, impression upon the apparent acuteness of the animal's taste when left to itself. But it may, perhaps, be said (and it is the only defence by which the position objected to can be maintained) that the faculty which the animal retains after the section of the

lingual branches of the fifth, is, not taste, but only "a sense analogous to it, which we cannot distinguish from taste." Such reasoning, if advanced, cannot, however, be admitted: if the one cannot be distinguished from the other, is it philosophical to deny their identity? If I can distinguish light, objects, colours (let us suppose it possible), with the extremity of my finger, will it be disputed that I possess vision in it?—and when I find that sapid agents—proper—excite, when applied to the root of my tongue, my soft palate, and my fauces, sensations similar to those which they produce upon the anterior part of the tongue, can I doubt that I taste with those parts? I cannot; and therefore I cannot regard the lingual branches of the fifth as more than nerves, but not *the* nerves of taste.

2. The Editors assert, "indeed it may be doubted whether the glossopharyngeal does confer what may be considered taste at all." With regard to the question involved in this statement, I will not dwell at present upon the experiment related in my paper, in which taste was not obliterated until the glossopharyngeal nerves had been divided, as well as the others which appear to me engaged in the sense; because it was a single experiment, and I wish to repeat it before I insist more strongly upon it; but it appears to me, that if the arrangement of the nerves of the tongue in birds, as described in my paper, be attended to, the gustatory faculty of the glossopharyngeals, in them at least, cannot be well disputed. There is no good reason to deny that the tongue is with them an organ of taste: in some (the parrot, for instance), it is demonstrably so. Now in birds generally there is not, I believe, a lingual branch of the fifth, or at least it cannot be traced to the gustatory surface of the tongue; while the glosso-pharyngeal is distributed freely upon that surface of the organ to its extremity; and in the parrots, whose power of tasting with the extremity of the tongue is easily observed, the lingual branch of the fifth, though it is prolonged to the extremity of the organ, is yet inconsiderable in size, and cannot be traced satisfactorily into the structure in which the sense appears to reside,—while, on the contrary, the glosso-pharyngeal of each side sends two large nerves, one along

the upper, the other along the inferior aspect of the tongue, which give off few, if any, branches, until they reach the extremity of the organ, where they break up each into a pencil of filaments, distributed all to the structure, which appears to be the seat of the sense. It can hardly, I think, be doubted, that here at least the glosso-pharyngeal is a nerve of taste; and if it be so in one case, it is likely to be so in another. Thirdly, I object to the doctrine that "taste is probably not a simple sense," or "that it is probably a composite sense made up of qualities appreciated by the tongue, the palate, the fauces, and even the nares." It is doubtless taste "in the common acceptation of the term" which is here spoken of; but I still object upon these grounds—first, I think that "common acceptation" should not be admitted as a standard in scientific inquiry, or that our conclusions should be conformed to its interpretations; the consequence, for the most part, being vagueness and confusion. Secondly, I think that flavour is the term most generally in use for such composite sensations, and I would desire to retain it, inasmuch as a distinctive epithet is necessary for them; and by it we may separate the simple sensations of taste from those composite sensations adverted to, in which the former are but ingredients. And, thirdly, I am satisfied that taste—proper—is a simple sensation; and while we confound with it composite sensations, we cannot hope to obtain accurate ideas of it: it is quite independent of smell, and though touch be almost uniformly associated with it, the latter condition is not necessary, for we can taste and not be conscious of the contact of the substance whose impression we perceive.

I admit at once that the inquiry is not complete, and that much still remains to be done, to which I hope ere long to contribute my share; but it appears to me, upon reflection, that my data justify my deductions, so far as they extend; and if the Editors were aware of the amount of time, labour, and expense, consumed in conducting the inquiry thus far, they would not feel any astonishment that it has not as yet been conducted farther.

Permit me, in conclusion, though after so long an interval of time, to notice a misprint of "father" for "faster" which occurred in the letter which you

some time since did me the favour to publish, in reply to Mr. Noble, and which affected the sense and style so much, that I have ever since felt anxious to correct it.

I am sorry to have to add, that that gentleman's second letter appeared to me little calculated to alter the impression made by his first.—I remain, sir,

Your obedient servant,

B. ALCOCK, M.B.

Dublin, April 11, 1837.

CASE OF DIABETES;

WITH REMARKS.

To the Editor of the Medical Gazette.

SIR,

THE well-known intractability of diabetes, and the comparative infrequency of the occurrence of the incipient form of the disease, must be my apology for intruding this communication on the attention of your readers.

On a careful examination of the records of fatal cases of diabetes, it will be evident that the only morbid appearance whose constant presence warrants us in asserting that it is necessarily connected with the disease, is an excessive development of the capillaries of the kidneys. They are described by pathologists as being enlarged and unusually turgid. This condition of vessels appears to me to be a sufficient cause of the increased flow of urine which is the characteristic symptom of the disease.

A vascularity similar to this is seen often on the mucous membrane of the eye, being most frequently a consequence of acute inflammation; sometimes, however, existing as a primary condition. It is termed passive congestion—the passive hyperæmia of Andral and others.

Researches into the anatomical history of inflammation have gone far to prove that the capillaries in this case are in a state of atony, admitting of a stagnation of their contents, and as a consequence become distended. Moreover, the experiments of physiologists have shewn that this state of vascular repletion is favourable to secretion and exudation. It is remediable by the application of stimulants.

I thought, therefore, that if in diabe-

tes stimulants could be applied to the atonized vessels of the kidneys, they would be urged to propel their contents, and the secretion of urine would be reduced to its normal standard. Diuretics suggested themselves, and in a case of diabetes insipidus which I have had an opportunity of observing in the Hull General Infirmary, immediate benefit followed their administration. I will very briefly detail the leading features of the case.

Wallis Lyon, ætat. 17, entered the hospital October 6, 1836. He had all the usual symptoms of diabetes, except that the emaciation was not so extreme as is seen in diabetes mellitus of like duration. The disease had existed for ten months, during which period the quantity of urine discharged in 24 hours had varied from five to twenty pints. After his admission, we ascertained that he passed sixteen pints of urine in twenty-four hours, and drank of fluids during the same period ten pints. The specific gravity of the urine was 1004. Analytical examination of 1000 grains gave water 987, urea 9·5, salts 3·2, a trace of uric acid, the rest lactates, with animal matter.

Venesection local and general, diaphoretics, tonics, astringents, &c., were tried conjointly, or in succession. Animal diet was strictly enjoined. The disease, however, remained uncontrolled. On the 10th of February, 1837, he passed twenty pints of urine. By permission of Dr. Alderson, under whose care he was admitted, I prescribed as follows:—

Habeat solutionem Potass. Bitart. pro potu ordinario.
R Potassæ Nitrat. ℥iv.; Aquæ, ℥viij. cap. coch. ij. ter in die.
R Spt. Ætheris Nitrici, ℥j.; Aquæ, ℥j. M. ft. haust. omni nocte sumendus.

This treatment was continued with little variation till the 2d of March. He was then ordered to omit his medicines, and take the following:—

R Infus. Quassiae, ℥viij.; Spt. Æth. Nit. 3ij. cap. coch. ij. bis in die.

On the 16th of March he was discharged cured. On the day of his leaving the hospital two issues were established over the region of the kidneys.

On the 4th of April he was reported quite well, and had resumed his agricultural occupation.

The following table indicates the progress of the case:—

	Urine.	Drink.	Sp. Gr.
	<i>Pints.</i>	<i>Pints.</i>	
10	20	12	1004
11	22	12	
13	20	12	
17	17	11	
20	12½	10	
22	11	7½	
24	9	6	
27	7	5	
March 2	6	4	
6	5	4	
10	4	3½	As of a person in health.
16	3½		

The specific gravity increased daily. On the 17th of March it was 1015. The urea and salts were nearly in due proportion.

The result of this case is interesting, as it seems to afford a ready explanation of the *modus operandi* of many remedies which have been employed with partial success for the cure of the saccharine form of this disease—as iodine, colchicum, citric and nitric acids, creosote, &c. All these are diuretics, and it is reasonable to suppose that if, in the room of these, more direct and more powerful diuretics had been employed, the resulting benefit would have been better marked, and more durable.

I am, sir,
Your obedient servant,
HENRY SNOWDEN.

Hull, April 11, 1837.

BREAKING OUT OF
THE INFLUENZA AT CAPE TOWN.

To the Editor of the Medical Gazette.

SIR,
THE very general prevalence of the influenza which has lately occurred, characterized by an unusual degree of severity and mortality, has naturally called forth a host of observations—many, indeed, of an ephemeral description; but as medical practitioners have now had time to reflect upon its peculiarities and

ON THE
EXCITING CAUSE OF
INFLUENZA.

To the Editor of the Medical Gazette.

SIR,

On perusing in your excellent journal of last week the letter of Dr. Greenhow, respecting the contagious character of the late influenza, I could not help being astonished at his reasoning.

Agreeing in the universality of the disease, the only differential point is, whether contagion or change of temperature be the exciting cause. I base my argument in favour of the latter on the very positions taken by Dr. Greenhow, and from which, I think, there can be only one inference deduced, and that not in favour of contagion; for universally the supervention of a certain disease was preceded by a certain well-known admitted mutation of temperature, capable of producing such an effect. Is it not, then, more reasonable—more logical an inference, that a positive effect should be ascribed to a positive precursory cause, in preference to an uncertain, undefined, undemonstrable one?

I will take the several positions of Dr. Greenhow, and attempt to prove, *seriatim*, that his conclusions are not only erroneous, but subversive of his premises.

Dr. Greenhow states, that observing that the epidemic appeared immediately upon the breaking up of the frost, he had prepared his mind to consider that change as its cause; but he adds that his subsequent investigations have shewn it (to him) to have apparently resulted from some morbid matter, of a specific nature, floating in the atmosphere. *He* may be convinced of this, but he has not satisfactorily demonstrated in his letter, upon any tenable ground, the manifestation of contagion; on the contrary, he has only asserted it to be apparent. This very datum he subverts in his observations on "locality." Did we search more uniformly for positive rather than ambiguous causes, our science, in concert with all others, would make more rapid strides

progress, it is to be hoped that some such attention will be paid to its history as was done by the College of Physicians in 1782, and referred to by Dr. Heberden in your last number. Should this be the case, it may be worthy of note that too much stress appears to be laid in general upon the circumstances and uncertainties of our unsteady climate and atmosphere; and I am more particularly led to remark this, in consequence of a letter from Cape Town, Cape of Good Hope, dated November 1st, 1836, about the most temperate and settled season of the year. It is written by a non-medical resident, and the following is, perhaps, sufficiently characteristic of our own epidemic to mark an identity. "We have here an influenza, cold, cough, and headache, attended with so much lassitude, that patients are obliged to keep their beds in spite of themselves."

I am, sir,

Your obedient servant,

E. BRANDE.

Eaton-Square, April 14, 1837.

MEDICAL BENEVOLENT SOCIETY.

While my pen is in my hand, will you allow me to trespass a little further upon your valuable space, and to mention a subject which will interest many of your readers who may be subscribers to the Medical Benevolent Society? They will recollect that this society was instituted in 1816, and that the funds were to accumulate during the first ten years, for the benefit of the members: twenty years and more have happily elapsed without any application for relief, and some of the more sanguine of its supporters were beginning to despair of the utility of the institution, and to flatter themselves that no case of distress was likely to occur among the subscribers. It may therefore be a satisfaction to the more opulent of the contributors to know that their benevolent intentions have not been exerted in vain; that a member, disabled by illness, has made an application for relief, which was submitted to the quarterly Court of Directors lately held, and a liberal sum immediately voted—such as the urgency of the case appeared to demand.

E. B.

of advancement than she ever has done. It is the foible of human nature to play with the shadow when in pursuit of the substance.

The altered condition of the atmosphere being asserted to have occurred immediately prior to the appearance of the epidemic, the inference seems to me very natural and conclusive, viz. that this subsequent general effect most likely must have been produced by the prior and equally general cause. No one will doubt that a sudden transition from high to low temperatures is capable of inducing a disease named catarrh; and very few, I presume, are prepared to deny its similitude to influenza; indeed, I have ever imbibed, both by oral and lectural tuition, the opinion that they are one and the same disease, with the slight exception that the former is partial, and the latter general, in incidence.

Then, since this prior change in temperature is incontestibly proved to be universal, and the immediate subsequent epidemic also found as universal, we cannot but reasonably infer that so general an effect must have been the result of so general a cause. Dr. Greenhow supports his position—contagion, by noting the universality of the disease. I think this effect militates against him; for having admitted the change of temperature to be universally antecedent, he can but in just sequence allow that to be the most probable cause; for this is real and apparent, whereas contagion is only imaginary, and not to be ascertained or found. The demonstration in favour of contagion rests, with Dr. Greenhow, on the invasion among “all classes of society, where warm clothing, comfortable lodging, and good food, afforded no protection.” This assertion, ingenious as it is specious, is far from being unassailably conclusive. The admission of this disease being universally indiscriminate, tends rather to disprove contagion as the causation; and were we to reason by analogy, we should find the proof abundant in our favour. When did variola, or either of the exanthematous contagious fevers, with cholera in the rear, ever spread with the fractional velocity that this influent catarrh did? It was simultaneous in incidence all over the country. We can easily geographise, if

allowed that expression, the progressive peregrination of all contagious diseases, with the precision of Dr. Hall’s maps; but can any contagionist trace the steps of influenza from house to house, hamlet to hamlet, village to village, and town to city? I have never seen either of the contagious diseases reigning epidemically, within the circle of my professional visits, without being able to trace whence it came, follow its progress, and observe its departure; and I flatter myself that I have had more than usual experience in those diseases.

Were influenza actually a contagious disease, induced by some specific morbid matter, we ought to find one or more of the altered conditions of the affected individual possessing all the specific contagious properties of the primary infection, as much as in scarlatina or typhus, or else it could not perpetuate and extend its kind. To be more pointed, I would ask, since the contagion of influenza invariably affects the mucous membrane of the nose, ought we not to expect that vitiated secretion, possessing infectious properties, similar to that of the same membrane in glandered horses? If so, we have good reason to bless ourselves that the rubbing of noses forms not a part of our social salutations.

Proceed we to notice the exemption of certain classes. All are more or less exposed to aerial mutations, and those most frequently so, the Doctor instances, are the agricultural people. Granted that they are the most exposed, but experience teaches that they are not the most frequently affected; for by their very continued exposure they become more inured to the vicissitudes, and consequently are not the most frequently attacked. Warm clothing and comfortable lodging are in great measure a protection: the first of these undeniably so; but these individuals do not clothe their noses, nor until recently did they their mouths,—hence they are but in degree more exempt; they breathe thus both ways, and have the same mucous membrane exposed to the changed atmosphere. Comfortable lodging is not virtually so great a protection as we at first would be inclined to deem it, when remembering this high artificial temperature, and contrasting it with the

external medium; for aerial changes will surround the king's palace as boldly and unhesitatingly as the beggar's hovel; and by mere transposition of Virgil's words, we can say, "*Catarrhus epidemicus pulsat*," &c. Here the potentate fares worse than his minion, for he has a greater transition of temperatures to be exposed to than the other.

These observations, I think, tend to show that change of temperature, and not contagion, is the actual cause of the late epidemic. "Locality appears to have exercised no influence either in mitigating or in aggravating its attack." What does this position tend to prove? Why, a doubt in the mind of Dr. G. that contagion had any thing to do with the disease; but to me it proves that it was simply the change of temperature; for were it contagion, "river sides, narrow lanes, close filthy alleys, and low marshy grounds," would be more favourable to the extension and malignity of contagion than "the upper towns and high places." Instead of the Doctor proving contagion, he disproves it; and (a plain inference from the above assertion) denies his cause. Next, "high temperatures:—people whose occupations were carried on here were among the first who suffered from the epidemic." I may add my testimony,—that there are no set of people more liable; yet did Dr. G. know their habits of rushing into the open air out of hot ovens, from before white-hot furnaces, from over cauldrons of fluid glass or iron, with streams of perspiration issuing from every pore, he would not be surprised to find them more liable than others. Here, then, are a set of persons more peculiarly predisposed to the endermic imbibition of contagion than ordinary, and yet are not in that manner infected, but through the pulmonary medium of absorption. We can afford the Doctor a better rationale to prove our correctness than he adduces in favour of contagion, were it solely in the rash exposure of these men to the cold air when their skin is in a state of the greatest activity; hence, by rapid evaporation, a sudden and powerful check is given to that increased action, repelling the capillary circulation to their larger sources, and then determining in congestion upon the most debile organ or tissue of such an individual.

In those men contagionic imbibition ought to be substantiated by the Doctor; yet, on the contrary, the position is subverted by the inference deduced. Assuredly, if "the people employed in the various soda manufactories, who work and live in an atmosphere impregnated with muriatic acid gas, enjoy no exemption," and the Doctor admitting disinfectant properties to that gas, we ought to expect it capable of annulling the virus of catarrhal infection: thus, again, the Doctor's inferences disprove his premises. We have yet to learn that muriatic acid gas possesses disinfectant properties. Verily, physicians are not universally the best chemists; and we are equally surprised with Dr. G., and equally sceptical in the disinfecting powers of that gas. It was only the other day another physician astonished your readers by his discovery of a new (ptyalismic) property to the hydriodate of potassa, which gentleman never chemically considered that the ptyalism was produced by the proto-iodide of mercury, formed by a double decomposition with calomel in that animal alembic or crucible, called stomach. Fortunate for the patient he was not taking the bichloride of mercury pills instead of Plummer's.

It is generally admitted that mariners are less subjected to diseases resulting from the ordinary altered condition of weather than landsmen, and more liable to infectants, for these are stowed in the hold with their cargo.

Then the dredgers, who are adduced as exemptive proofs from influenza, ought to be those most subject to contagion, from the nature of their work, the intemperate habits and filthy residences of such people,—for these conditions more than ordinarily predispose to contagion; particularly, then, if it existed in the very universally abounding morbid quantity and quality it is represented to have. Again, I conceive that persons confined for weeks to their rooms, aye, even to their beds, have caught the disease: in many cases I can easily prove the change of the temperature of the room taking place during the night, and also in the day, either through the carelessness of the nurse, or the unobservance of the afflicted, who, when the fire had burned low, I have seen to throw a heap of coals on, which, by damping, in less

than five minutes caused the thermometer to sink 15° or 20° . However hard the frost may have been at Sunderland, here my journal informs me that in those days we had snow and frost with N. winds, followed by rain and S.W. winds; these changed to N. and N.W. winds, strong and gusty,—then frosty night and snowy days; and even these states again replaced by thaw, rain, snow, and frost, in rapid succession, which, in my opinion, almost incontrovertibly prove the epidemic consequent on a change of temperature. A reference to your meteorological table will afford conclusive evidence of the frequent and rapid changes in the aerial currents and conditions of the temperature. My case-book notes catarrhal patients by the half dozen, some days anterior to Christmas.

Should this reply be deemed worthy of a place in your valuable journal, you will oblige me by its insertion.

Your obedient servant,

W. W. MORGAN.

Bury Dispensary,
April 10, 1837.

HERNIA—RARE FORM OF STRICTURE.

To the Editor of the Medical Gazette.

SIR,

I AM induced to forward to you the particulars of a case of hernia, presenting a rather uncommon form of complication, and proving at once the propriety, at least in a variety of instances, of opening the sac.

March 14. — A man, 39 years of age, was admitted into the London Hospital with the usual symptoms of strangulated hernia. He had been the subject of inguinal hernia for many years, but had never worn a truss, and latterly the hernia had been irreducible. Two days ago a fresh protrusion took place, which he was unable to return. His bowels had been moved on the same morning. The ordinary symptoms of strangulation set in, and he was brought to the hospital in a state of much depression. Very slight attempts at reduction were consequently made, which were unsuccessful, and the operation was performed. The sac contained no fluid;

a large portion of omentum was observed, of a healthy appearance. On unfolding this, a small *knuckle* of intestine was seen; this was found to be tightly strictured in the vicinity, apparently, of the inner ring. The intestine could be easily pushed towards the abdomen, but immediately returned. The stricture was divided, and the intestine readily passed into the abdomen. There was a distinct annular line indicating the situation of the neck of the original peritoneal sac, but this was much below the strangulated gut. The man died on the following morning, apparently from the mere impression upon his constitution, for the intestine was in a very favourable condition. On making an examination after death, it became apparent that a portion of intestine had descended through an opening formed by a band stretching across from the omentum on one side to a portion of adjacent intestine, and in this had become strangulated, and consequently the stricture in this instance had been divided within the abdominal cavity.

The rarity of this case does not arise from the circumstance of a portion of intestine being strangulated by the omentum, as cases are sufficiently numerous where such a variety has occurred; but it necessarily follows that, as such cases generally happen within the abdomen, they can seldom become the subject of a surgical operation.

This variety would of itself afford a most important argument against the attempt to divide the stricture external to the sac, for such an attempt must here have been fruitless; and although in very many instances such a method of procedure may be adopted with signal success, yet from the examination I have made of many hernial sacs after death, I feel perfectly convinced that the stricture has very frequently resulted from an altered condition of the narrow portion, or what may be termed the mouth of the sac, the latter becoming converted into something thicker than mere serous membrane; I would almost call it tendinous.

I am, sir,

Your obedient servant,

JOHN ADAMS.

31, New Broad-Street,
April, 1837.

CASE OF SEVERE COUGH,

ENDING IN

RUPTURE OF THE LUNG, AND GENERAL
EMPHYSEMA OF THE BODY.*To the Editor of the Medical Gazette.*

SIR,

ON the 21st of April, 1837, I was requested to see the infant son of Mrs. S., æt. ten months.

It appeared that the child had had a slight cough for some days. His friends did not consider it of much importance, as his general health was good. On the day I first saw him the cough had considerably increased, was accompanied with a good deal of spasm of the muscles of the chest, and generally terminated by the contents of the stomach being rejected. In some respects it resembled pertussis, but was not accompanied with the peculiar hooping noise attending this disease. There was no fever; the bowels were rather confined, and the motions had been for some days of a very light colour. I ordered him an aperient powder of calomel and jalap, and a saline mixture, with ipecacuanha wine.

March 29th.—Cough very violent, occurring in paroxysms about every hour. Bowels well relieved by the powder; motions still of a light colour.

Calomel, gr. i. h. s. Reprtr. Mist.

23d.—Has had several green-coloured stools; cough continues the same. There is no fever; and when the paroxysms are over the child appears perfectly well, taking the breast freely, as also any artificial food that may be offered it.

Mustard Poultice to the chest.
Reprtr. Mist.

25th.—The paroxysms of cough occur about every half hour, and are of a more violent character than I ever saw in so young a child. An enormous quantity of mucus is discharged from the lungs and stomach. During the fit the vessels of the head and face become greatly distended with blood, and the child looks as if it was about to be suffocated; but when it has ceased the child appears perfectly well and cheerful. The bowels have acted two or

three times within the last twenty-four hours, and the motions are of a natural colour. Ordered saline medicine, with a small quantity of the extract of hemlock every six hours.

28th.—Mr. Stone saw the child with me. The cough, if possible, is more violent. There is still no fever, and when the fit is over the infant appears perfectly well, although somewhat exhausted from the want of sleep, the cough being quite as severe during the night as in the day.

Saline mixture, with Ipecacuanha Wine, every six hours; the chest to be rubbed with a Tartar Emetic Embrocation, until pustules are produced. Some Calomel and Rhubarb to-morrow morning.

30th.—Cough no better. The child appears drowsy and heavy to-day, the head falling back upon the nurse's arm, unless supported. There is also probably a slight strabismus, looking as if mischief were going on in the head.

Calomel, gr. j.; Pulv. Ipecac. gr. ss.; Sacchari, gr. iij. tertia quâque horâ. To be washed down with an ammoniated saline mixture.

The child having been convulsed in the morning, an assafoetida injection was ordered to be given in case the convulsion returned, and to be placed in the warm bath.

31st.—Had two more slight convulsions last night. Cough no better; not so drowsy as yesterday. There is more heat of skin, and the pulse is quicker and harder than it has hitherto been.

Rep. Pulv. et Mist. Cuc. Cruent. inter scapulas, ad 3ij.

April 1st.—Head symptoms much relieved. The child appears cheerful; takes the breast perfectly well. Cough quite as severe as ever: it still has many of the characters of hooping-cough, but the *hoop* is wanting. The liniment has produced no pustules. Mustard poultice to the chest. To continue the ammoniated saline mixture, without the powders.

2d.—Cough rather better. There appears to be more difficulty in getting rid of the mucus.

Pulv. Ipecac. gr. x. ft. Pulv. Emetic. statim sum.

In the evening I was sent for to see the child. The emetic had not acted. The child had had two or three severe

fits of coughing during the day. The mother told me that she fancied the chest was swelling, and on examination I found that there was extensive emphysema under the skin covering the thorax, extending up the neck as high as the angles of the jaw, and downwards over the abdomen. The breathing was becoming very laborious. The infant was perfectly alive to every thing that was passing, and took the breast with avidity. During the night the cough entirely ceased, but the difficulty of breathing increased, and he died about the middle of the following day.

Postmortem Examination. — There was extensive emphysematous swelling about the neck and chest, and extending over the abdomen and down the thighs. On raising the sternum with the cartilages of the ribs, several large bags of air presented themselves, which were found to be formed by air having got between the two layers of the anterior mediastinum. The whole of the cellular membrane in the anterior of the chest was filled with air—more especially on the right side, and at the root of the upper lobe of the right lung. At this point, when the lungs were inflated by means of bellows, the air appeared to escape under the pleura, and here it was evident the lung had given way, causing this extensive emphysema. The lungs were much collapsed, especially the left, the right being somewhat emphysematous. They were much tuberculated, especially about their apices. The abdominal viscera were healthy. The head was not examined.

Your obedient servant,
F. G. HICKS.

April 17, 1837.

TREATMENT OF NÆVUS.

To the Editor of the Medical Gazette.

SIR,

A FEW days ago, in turning over the pages of the British and Foreign Medical Review, I observed the following case, copied from the Lancet, and headed "New Mode of Operating for Nævus," by Mr. Liston.

A child, aged 20 months, was admitted into the North London Hospital, on the 2d of November, with a nævus, of

the size of a pigeon's egg, on the face, near the nose. It had gradually increased to its present size, was compressible, and filled speedily on the removal of pressure. On the 7th Mr. Liston made a crucial incision through the integuments covering the tumor, and carefully dissected back the four flaps, so as completely to expose the tumor. A needle, armed with a double ligature, was then passed through the base of the tumor, and another in like manner at right angles to the former. The needles being withdrawn, four ligatures remained, and were successively tied over the tumor so as to comprehend the whole. Water dressings, at first cold and afterwards warm, were applied. The case went on favourably, and the report on the 21st (the fourteenth day after the operation) is, "the whole tumor is now come away, the swelling is abated, and the edges of the integument coming gradually together."

Now, as I fully recollect the principle of the operation to be of some years' standing, and due to another, I trust you will excuse my intruding on the pages of your journal, from my feeling of the rectitude of the adage—*palmarum qui meruit ferat*.

Ten years ago, Mr. Fawcington, now surgeon to the Manchester Royal Infirmary, made some experiments in the treatment of nævus, and published the results in the North of England Medical and Surgical Journal.

His mode of operation consisted in passing through the base of the tumor a seton sufficiently large, allowing it to remain until the necessary inflammation and suppuration for the destruction of the diseased growth had been fully established; and promoting this, when too tardy, by partially withdrawing the seton, and stimulating the channel by escharotic applications, especially the potassa fusa.

This mode of treatment, verified and authorized by subsequent experience, was strongly animadverted upon at the time by the Editor of the Medico-Chirurgical Review. Time, however, has fully confirmed its usefulness. The principle laid down by the author was twofold: 1st, the suppression of hæmorrhage from the vessels divided by the needle (an object highly desirable in young and delicate subjects, upon whom the effects of loss of blood are frequently

most injurious); and, 2dly, to create a degree of irritation sufficient to excite inflammation and its consequences throughout the diseased mass. To establish this state of things has been the grand object of all subsequent improvements in the art of curing *nævi*, whether we consider the practice of *acupuncture*, as advocated by Dr. M. Hall and Professor Lallemand, or the mode of cure by *injection*, as recommended by Mr. Lloyd.

To Mr. Fawdington, therefore, I think is due the merit of having first suggested the principle on which all later modifications have been grounded.

I am, sir,
Your obedient servant,
P. G. HEATLEY.

38, Red Lion Square,
April 10, 1837.

BRUIT DU DIABLE.

To the Editor of the Medical Gazette.

SIR,

ON reading Dr. Ward's interesting paper on the "bruit du diable," I met with the following passage:—

"Whichever hypothesis of the cause of the *bruit du diable* be the true one, both are equally opposed to that of Dr. Corrigan—that the bellows sound, and others like it, arise from relaxation of the vessels; for whether the sounds are produced by veins or arteries, they are in both augmented by pressure and tension."

In answer to which I beg with respect to say, that I have always understood from Dr. Corrigan, both in his lectures and in conversation, that he conceives the "bruit de soufflet" and similar sounds are to be explained upon the hydraulic principle which states, that when a fluid passes from one tube into another, the calibre of which is *greater*, it is thrown into *irregular* vibrations, which vibrations, according to his theory, account for the sound which is called "bruit de soufflet."

And in support of this he adds, if you apply "pressure and tension" upon the femoral artery, for instance so as to narrow its area, you cause a "bruit de soufflet," by the blood passing from the

compressed portion into that part of the vessel which is in its normal state, and consequently wider. The same principle applies to aneurisms, and to those cases where there is narrowing of the opening between the aorta and ventricle, in consequence of depositions on the semilunar valves.

I believe the cause of these sounds has never been satisfactorily settled; is it not possible that there may be more than one producing a like effect?

I am, sir,
Your obedient servant,
EDMUND BOULT, M.R.C.S.

London, April 12, 1837.

ADVANTAGE

OF

ERGOT OF RYE OVER INSTRUMENTAL ASSISTANCE,

IN SOME CASES OF LABOUR.

To the Editor of the Medical Gazette.

SIR,

THE accompanying case occurred in my practice in December last. As it is not one of every day's occurrence, and exhibits the great advantage of the ergot of rye over manual and instrumental assistance in certain cases of obstetric practice, I have forwarded it to you for the benefit of my medical brethren.

—, ætat. 28, the mother of four children, had been under the care of a medical gentleman for symptoms threatening abortion (she considering herself to be about four months advanced in pregnancy). As she did not find any alleviation of the symptoms, she consulted me. I found her to be suffering from excessive hæmorrhage, accompanied by irregular uterine action, and great pain and tenderness over the pubic region. I prescribed a full dose of pulv. opii, with plumb. superacet., at sufficiently distant periods giving the sulphuric acid with infus. rosæ. Under this treatment, with strict confinement to the horizontal posture, the hæmorrhage and uterine action ceased, and the patient rapidly regained her strength. On the following week I was again called in, when the former symp-

toms reappeared, accompanied with most distressing but inefficient uterine contraction. On examination, I found the os uteri dilated, and filled with what at first felt like a placenta, but, by a closer examination, I discovered it to be an hydatidous mass of considerable size. I at once carefully removed as much as was within reach, amounting in quantity to about four pounds. As the hæmorrhage had ceased, I was unwilling to penetrate far into the uterus; and as its contractions were at this time inefficient for the complete expulsion of

the mass, I gave a full dose of the powdered ergot of rye. In about ten minutes that portion of the mass which had adhered to the internal surface of the uterus was expelled, and all hæmorrhage ceased. The patient is now quite well. The hydatids all arose from one common stem, and varied from the size of a mustard-seed to that of a pigeon's egg.—I am, sir,

Your obedient servant,

JOHN F. EVANS.

St. Neot's, April 14, 1837.

NEW SPECULUM VAGINÆ.

To the Editor of the Medical Gazette.

SIR,

IN your journal of December 3, 1836, you did me the favour to insert an account of a new instrument for closing vesico-vaginal and recto-vaginal fistulæ. I now beg to transmit to you a description of a speculum vaginæ, which I have constructed more especially to aid in operating for these affections, though it may be equally useful in examining and operating on the vagina in other cases. I have used this speculum, and neither its introduction nor its expansion in the vagina has caused the least uneasiness. When introduced, it is wholly within the vagina; there is no handle or external part to obstruct the sight, or impede the movements of the knife or other instrument, if operating. It leaves a large extent of the vagina

so plainly exposed to view, that to pare and sew together the edges of fistulous apertures of this part I am sure may be accomplished with very little difficulty.

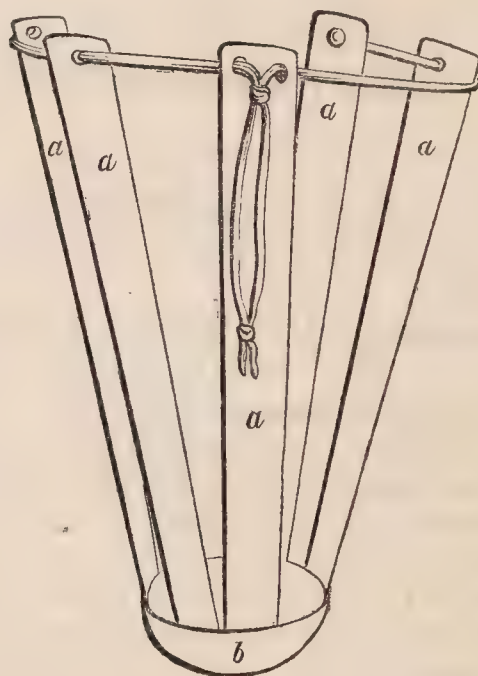


FIG. 1.

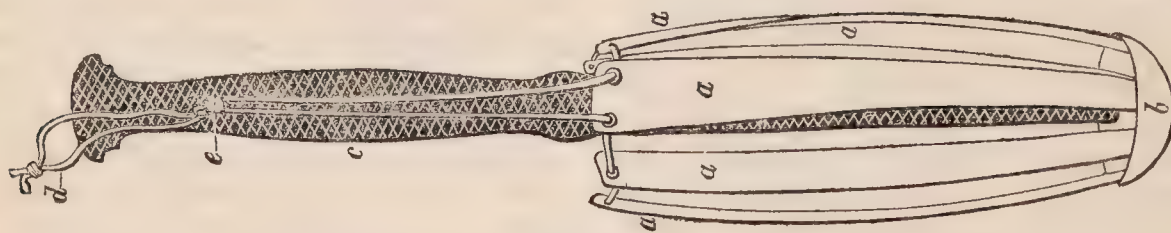


FIG. 2.

This speculum consists of five steel blades (*a, a, a, a, a*), each three inches long, fixed around two-thirds of a hemisphere (*b*) of rather more than one inch in diameter: when unconfined they diverge so as to form at their unattached extremities a portion of a circle of three inches in diameter. In the centre of the hemisphere (*b*), there is a

hole, to receive a short screw fixed at the extremity of the handle (*c*).

Before introducing the speculum, the blades are to be drawn together by means of the string (*d*), a loop of which is caught on the peg (*e*) of the handle (as seen in fig. 2). When the instrument is passed fairly into the vagina, which should be done slowly, with a

very slight rotatory motion, the string (*d*) should be raised from off the peg, and the blades suffered gradually to expand. The handle (*c*) is then to be unscrewed and withdrawn, and the speculum will be left as it is seen in fig. 1, giving an uninterrupted view of nearly one-third of the parietes of the vagina.

The case of vesico-vaginal fistula mentioned in my communication above alluded to, did so far well, that three or four days after the operation, when the ligature was removed, firm union was found to have taken place in the whole extent of the pared portion of the edges of the aperture, converting, in a few days, a large opening into one which would barely admit a crow-quill, and which may, no doubt, be closed when the patient shall be willing to undergo a second operation.

I have the honour to be, sir,
Your obedient servant,
WM. BEAUMONT.

47, Berners-Street,
April 10, 1837.

NOTE TO DR. ALISON,
ON A POINT OF PHYSIOLOGY.

SIR,

Will you permit me, although unknown to you, to ask you a question respecting an opinion which you have given on a point of physiology? In a review, which is generally ascribed to your pen, in the *British and Foreign Medical Review**, you have stated, quoting your own work on *Physiology*†—

“It is now satisfactorily ascertained that no part of the brain *higher* than the corpora quadrigemina, nor of the cerebellum, is essentially concerned in sensation.”

Had it not been that you draw a particular conclusion from this paragraph, I should have thought that a typographical error had been committed in your *Physiology*, and repeated in your review (however difficult this supposition might be); for in M. Flourens' work‡ we have the following:—

“J'avois conclu de mes premières

expériences touchant *les lobes cérébraux*, que ces lobes sont *le réceptacle unique des sensations*,” and*, “*Les lobes cérébraux sont le siège exclusif des sensations, des perceptions, des volitions.*”

Sir Charles Bell, in his recent communication to the Royal Society†, says—

“I now propose to demonstrate that *sensibility* and motion belong to the *cerebrum*,” &c.

Surely you have asserted too much in saying that “it is now *satisfactorily ascertained* that no part higher than the tubercula quadrigemina is essentially concerned in sensation.” And if so, will you allow me to put a further question, viz. what becomes of your *conclusion*, if your premises be erroneous?

“Now if we acquiesce in the doctrine of Whytt, ascribing sympathies to the brain and spinal marrow, but limit it to the extent of excluding all parts of the brain higher than the corpora quadrigemina, what remains to be concerned in them but the medulla oblongata and spinal marrow? And if this was not expressed *totidem verbis*” (*i. e.* in the review), “was it not because the expression of it appeared really superfluous?”—I am, sir,

Your obedient servant,
PHYSIOLOGICUS.

April 14, 1837.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

Mechanik der menschlichen Gehwerkzeuge. Eine anatomisch-physiologische Untersuchung. [The Mechanics of the Human Organs of Progression. An Anatomico-Physiological Inquiry.] Von den Brüdern WILHELM WEBER, Professor in Göttingen, and EDUARD WEBER, Prosector in Leipzig. With 17 Plates. Göttingen. Schloss, London.

THIS is a most elaborate treatise on walking and running, got up in the true German style. The subject is one which seems in all ages to have been much neglected; for, from Aristotle to

* No. VI. page 580.

† Page 131.

‡ Du Système Nerveux, p. 85.

* Ibid, p. 121.

† Phil. Trans. for 1834, p. 473.

the present time, we cannot enumerate much more than a dozen persons who have directed their especial attention to it.

Aristotle and Galen among the ancients—Fabricius ab Aquapendente, Gas-sendi, and Borelli, in more modern times—and still more recently Haller, Barthez, Magendie, Roulin, Gerdy, Krause, and Poisson, are the only eminent names we can quote in this department of anatomico-physiological science. It is certainly remarkable that while the movements of the heart and lungs have attracted almost universal attention, those of the organs of progression seem to have failed in exciting even a common degree of interest.

The work before us is divided into four parts. Part the first is occupied with a general view of the doctrines of walking and running; part the second is devoted to anatomical details; part the third to physiological inquiries; and part the fourth is historical.

The nature and limits of our journal prevent us making any regular analysis of the brothers Weber's work. In place of attempting it, therefore, we propose to give one extract from the section headed "*Signs and conditions for slow and quick walking*," and to illustrate the letter-press by a couple of figures.

"We can enumerate many signs of a slow or quick walk. We may say that in quick walking the trunk is more inclined, or the space of time during which we stand on both legs is very short or null, or the steps are very great, or they are very quick. None of these conditions are causes, but all natural consequences, of quick walking. If we now inquire into the causes of all these different effects, or into the peculiar expedients which we employ to quicken our walk, we find that the fundamental condition of a slow or quick walk consists in *the height to which we elevate the two heads of the thigh-bones from the ground*. The higher we raise them, the slower our walk; and, *vice versâ*, the lower, the quicker the walk. For the higher or lower the heads of those bones are carried from the ground, the smaller or greater is each step; because the leg, which in walking should rest on the ground, can be removed only a little from the vertical position when its upper end (the head of the thigh-bone) is high: on the other hand, when this upper end is low, the leg

can be farther removed. But with this removal is connected the length of the step. Moreover, the higher we carry the heads of the thigh-bones, the longer is the duration of each step; and, *vice versâ*, the lower they are carried, the shorter the duration of each step; for the lower these heads are carried, so much the more inclined is the position of the supporting leg—the greater is the speed of the body—the shorter is the period during which the legs remain still; when impelled by their weight they are obliged again to overtake the trunk—the more vertical is the position of the leg in stepping, and the shorter the period of support on both legs; and the less, lastly, does the duration of a step exceed the half of the duration of the movement of the leg. In short, according to our theory, all differences of slow and quick walking are the necessary consequences of the height to which the head of the thigh-bone is carried from the ground.

"If, in walking, we carry the heads of the thigh-bones high, the leg, at the instant when it stands perpendicularly on the ground, can be but little bent or shortened; and therefore afterwards, when it supports the body, it can be again elongated only a little. On the other hand, if the heads of the thigh-bones be carried low in walking, the leg, at the moment when it stands perpendicularly on the ground, must be much bent or shortened; and, therefore, when it acts as a support, it must become much stretched out, or elongated. We may therefore say, that slow and quick walking, and all differences between them, depend on *the magnitude of the alternate shortening and elongation* which the leg suffers in walking; or more correctly, on the degree of flexion of the leg, at the instant when it stands perpendicularly on the ground.

"Every one will immediately perceive that the man represented in fig. 12 walks much quicker than the one in fig. 13. The first (fig. 12) is the sketch of a man in the act of walking, and whose step measures 700 millimetres [$27\frac{559}{1000}$ inches]: the second (fig. 13) is a sketch of the same individual, whose step is merely 600 millimetres [$23\frac{622}{1000}$ inches] long. If we suppose, what indeed is nearly the fact, that in the first case he makes a step in $\frac{35}{100}$ of a second, and in the latter case he does the same in $\frac{55}{100}$ of the second, it follows that he

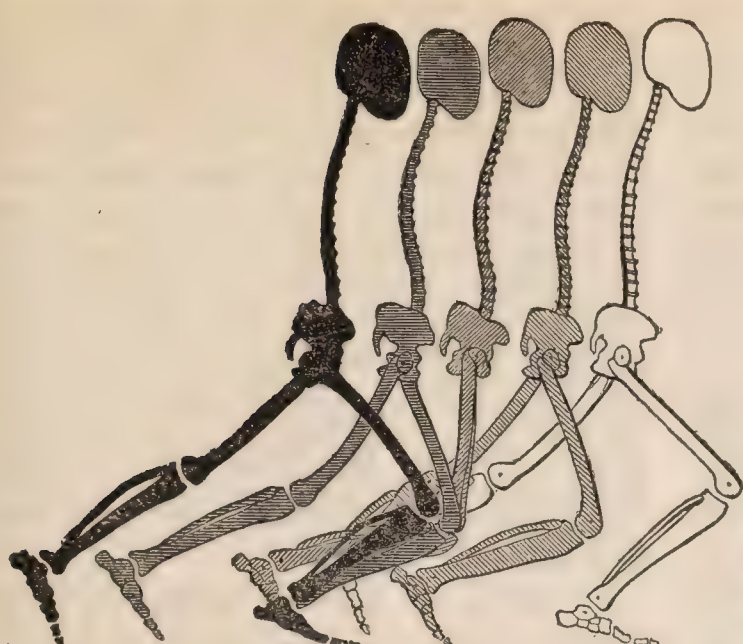


FIG. 12.

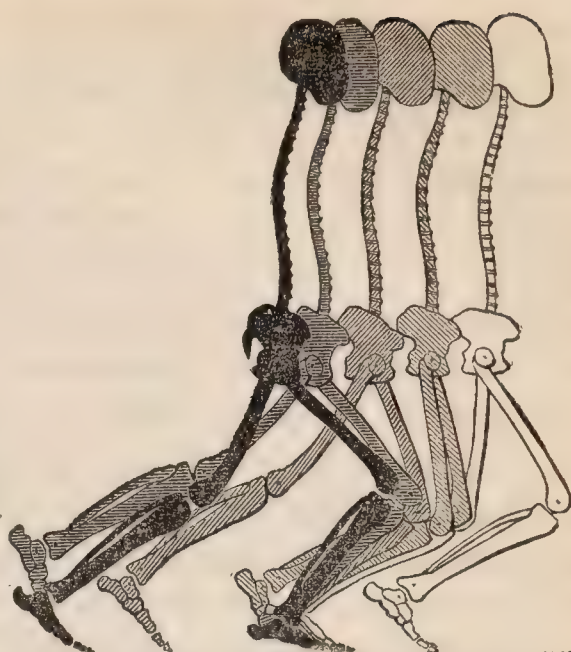


FIG. 13.

walks nearly twice as fast in the first instance as in the second. The greater length of the steps in fig. 12, as we easily perceive, could be produced only by the trunk being carried on bended legs and the heads of the thigh bones at a slight elevation from the ground,—for it is only thereby possible that the legs could alternately assume so inclined a position as the hinder leg in fig. 12. Both figures represent “walking on the toes” (as if always only one and the same part of the sole of the foot pressed the ground), where the length of the pace is much less than when the whole sole of the foot is lifted from the ground. Comparatively, therefore, fig. 13 exhibits indeed large steps, but fig. 12 represents the largest step which can occur in walking on the toes. In smaller steps, the difference of height, though still existing, is less perceptible.”

MEDICAL GAZETTE.

Saturday, April 22, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

PRINCIPLES OF THE NEW UNIVERSITY.

It is difficult to imagine any thing in the spirit of monopoly more objectionable than the new University of London—a fact the more to be lamented when

we consider how fine an opportunity its institution afforded of shunning the evils which attach to Oxford and Cambridge, and stamping the new establishment with the liberal spirit of the times. So far, however, from this noble object having been accomplished, the arrangements hitherto made known almost force upon us the suspicion of its having been designedly set aside, and the littleness of the present plan adopted, on a principle of retaliation, rather than in the free and liberal exercise of a generous emulation.

The great objection to the old Universities was, that they each possessed, or—as the usual phrase has it—*enjoyed*, a monopoly. This was complained of—loudly and indignantly complained of. The table of the House of Commons groaned under petitions against the injustice of preference, or exclusion, in the walks of science; and its walls rung with acclamations whenever allusion was made to the march of intellect, and the enlightened views of the nineteenth century, as contrasted with the bigoted institutions of the monastic ages. Knowledge and science were to admit of no obstructions, to know no boundaries, but to be as free and spreading as the general air—the life-giving atmosphere of a renovated empire!

Many were intoxicated by the inspiring prospect, and we confess ourselves to have been among those who tasted the enthusiasm. But the delusion is past with us, and is rapidly passing away with others. The new scheme, embodying the ideas entertained by his Majesty's Government of liberality in regard to education, has now been some months before the public, and the judgment of many intelligent persons, who generally agree in political opinions with the present ministers, has been pronounced against it.

Within a few days after the names of those appointed "Fellows" was made known, we announced the withdrawal of Lord Brougham's name from the list, by that nobleman's express desire. This was sufficiently expressive of his opinion—but his sentiments were more fully and yet more explicitly made known a few nights ago in the House of Peers. What he then said was but very imperfectly given in the newspapers; but a gentleman who was present has furnished us with the following written report.

Lord Brougham said "that Oxford and Cambridge had enjoyed a monopoly, and had been very much injured by it. But to show that he spoke without any prejudice or partiality, he felt himself bound to say that the spirit of monopoly was not by any means confined to Oxford and Cambridge; and that in a very recent scheme, with which his noble friends near him, without consulting him, and without his knowledge or concurrence, had done him the honour to connect his name, he found the very same spirit of monopoly prevailing in a most alarming degree, inasmuch as the benefits of the new system were limited to two establishments only, to the exclusion of many institutions of the highest value and importance; and he thought this would be *infinitely pernicious to the country*. He regretted it most deeply,

and had *at once* requested that his name (which he repeated had been introduced wholly without his privity or consent), should be withdrawn from the new body, so strongly did he disapprove of the system, and this, though he was nearly connected with, and greatly interested in the success of one of the favoured institutions—he alluded to that which used to be called the London University, and which was now known as University College."

It would be difficult to imagine an opinion more to the point, or more strongly expressed, than this; and it is entitled to respect on two accounts altogether unconnected with the acknowledged talents of the speaker,—first, because he is well known to have devoted the energies of his mind for a series of years to the subject of education, which has long been with him a favourite pursuit,—and, secondly, because he is, and has throughout his whole political life been, on terms of private friendship and public co-operation with those by whom the measure in question was brought forward: so that it is impossible not to perceive that strong conviction alone could dictate the expression of a disapprobation so general, so uncompromising, and so decided.

It will be perceived that Lord Brougham did not refer to the privilege bestowed on the new establishment to add other schools to those named in the charter; but this power of picking and choosing only gives to the monopoly a more invidious character, while it opens wide the door to partiality and intrigue. We have before asserted, and we repeat, that the introduction of the names of two medical schools into the charter of the new University was an act of gross and unwarrantable partiality,—an opinion in which it is not stretching the argument too far to say we have the support of Lord Brougham. Nor is he the only Whig

nobleman who has declared this sentiment. Lord John Russell stated, in his place in the House of Commons, "that the other medical schools of London would be entitled to confer medical degrees if that power was given to the University of London*." Now if this declaration was more than mere empty words, it means that, in Lord John Russell's estimation, whatever privileges were given to University College in reference to medical degrees, ought in fairness to be also conferred upon other similar establishments. True, Lord John's opinion was expressed before, and Lord Brougham's after, the foundation of the new University,—but this cannot alter the sentiment conveyed. Neither can we suppose the noble Secretary for the Home Department capable of quibbling about the meaning of his words; for although the direct power of conferring medical degrees has not been given to University College, yet the right to claim the degree is bestowed, which is but a more circuitous manner of obtaining the same boon. The pupil has to walk to Somerset House instead of to Gower-Street; that is the amount of the difference.

We do not entertain any doubt but that other medical schools will be admitted as qualifying for the degree—those, for instance, which have a certain extent of appliances and means; we will not invidiously say whose members have certain connexions or opinions; but we object, as we have said, to the principle. By the way, can any of our readers tell us why a certain school in the East is set forth in a different fashion from what it was wont to be—why it now, for the first time, prominently puts forth its connexion with the hospital? Seeing that one of those connected with it is a "Senator," it is not likely that any such measure would be adopted without suf-

ficient grounds. Is it, then, in contemplation to make connexion with an hospital a necessary condition of recognition? If so, how will some of our contemporaries, who have eulogized the University to the very echo, ere its plans were known, and have advanced much laudation upon credit—how, we ask, will *they* be satisfied with such an arrangement?

For ourselves, we never have liked the principles on which the new institution in Somerset-House has been established; and we agree entirely with Lord Brougham, that when we turn from the old Universities to the new one, we find "the same spirit of monopoly prevailing in a most alarming degree."

IMPORTANCE OF MEDICO-LEGAL EVIDENCE.

WE have taken numerous occasions to point out the great advantages which may be rendered to the cause of justice by medico-legal investigations, conducted by intelligent persons, and on scientific principles. We know not that a better illustration of this could well be found than was presented in the recent trial of Greenacre for the murder of Mrs. Brown. At the time the mutilated remains were discovered several highly-interesting communications were made to this journal, in which important facts were detailed, and the inferences to which they led clearly pointed out. We ourselves, after a due consideration of the details, remarked—"It is impossible not to imagine that the unfortunate woman was suddenly stunned by a tremendous blow—that stupor ensued—and that the perpetrator lost not a moment in truncating his victim." How entirely this opinion, offered on the 14th of January, has been in all respects confirmed, it is unnecessary for us to point

* Hansard.

out. The case is nearly unique, the only one resembling it that we know of having occurred in Paris in 1832, when a M. Ramus was first rendered insensible by prussic acid, and then cut into pieces, which were variously distributed.

In order to render our record of the recent transaction complete, and to serve as guides on similar occasions in future, we have inserted in the present number the evidence of the medical witnesses on the trial. It will be perceived that the gentlemen who were called proved the following important points:—

1. That the body bore the mark of an injury which must have been inflicted during life. This consisted in a blow upon the eye, which had produced a great degree of ecchymosis; and the accuracy of the opinion formed by the witnesses, Mr. Girdwood and Mr. Birt-whistle, has since been placed beyond all doubt by the confession of Greenacre.

2. That the throat had been cut, either during life, or very shortly after vitality was extinct. This opinion was founded, partly on the retraction of the muscles which had taken place, and partly on the extent to which the body was drained of its blood. This inference also is fully borne out by the statement of the culprit, who has admitted that the decollation took place within a very short time after he believed his victim to be dead.

3. That the bones of the neck had been divided by means of a saw. An instrument of this kind was afterwards found in Greenacre's box, and which exactly fitted a cut in the fifth cervical vertebra, which bone, after having been partly sawn through, had broken.

4. That the party had died suddenly; this being proved by the stomach, which contained food half-digested;

while that such sudden death had been the result of violence was inferred because there was no appearance either of poison or disease to account for the decease.

MEDICAL EVIDENCE.

“MEDICAL EVIDENCE.—During an assault case at our Assizes, (says the Exeter Gazette) Counsel was explaining to the jury that medical men were obliged occasionally to use technical expressions in giving their evidence, when he was interrupted by Baron Gurney, who said, ‘Except *eminent* men, who always use the plainest language.’ ”

We entirely concur in the observation of the learned Judge. Nothing more strongly marks the coxcomb and pretender than the use of technical terms, either in general society or in the witness-box. We lately heard a talented member of the Irish bar tell with great gusto the effect upon such a witness of a question apparently very simple, though evidently put with a roguish intent. The witness spake much, and learnedly, using many hard terms. Among others, he repeated the word *dyspepsia* very frequently, and in such a way as to lead the adverse counsel to suspect that he did not understand the term. He commenced his cross-examination by asking, “*unde derivatur dyspepsia, Doctor?*” The witness was puzzled, and tried to fence off the attack, but the barrister, seeing his advantage, continued his thrust: “Nay, but—*unde derivatur dyspepsia, Doctor?*” repeating the question, till the unhappy doctor, found wanting in a knowledge of his own technicalities, was fairly laughed out of Court.

This anecdote, probably derived from the same source, is alluded to by Dr. Cummin in some excellent remarks upon medical evidence, in one of his lectures published in our last volume (page 39).

MEDICAL ATTENDANCE ON PAUPERS.

OUR readers are aware that we have urged the expediency of the Colleges of Physicians and Surgeons petitioning the legislature against the present mode of providing medical attendance for the sick poor. On this point, if we may judge from their "non-intervention," we have reason to believe that we have differed in opinion from the leading members of those bodies; but, having a strong and decided feeling upon the subject, we have not the less energetically urged our views upon their attention. It gratifies us to find that the medical professors, both of Oxford and Cambridge, have regarded the matter in the same light as ourselves, and have addressed petitions to parliament upon the subject. One correspondent, who signed himself a Member of one of the Colleges, and apparently speaking *ex cathedra*, lately inquired, "What have we to do with it?" We answer, surely you have as much to do with it as the Professors of Oxford or Cambridge. It touches not them personally, yet they have shown that they do not regard with indifference a measure which tends to degrade any branch of the profession—even though it be one to which they do not themselves belong.

"Mr. Law presented a petition from the Professors of Medicine in the Universities of Oxford and Cambridge, complaining of the system of supplying medicines and medical attendance to the poor in Workhouses by tender, and praying the House to adopt such steps as would on the one hand guard against improvident expenditure, and on the other afford to the poor in those Workhouses the attendance of properly qualified medical practitioners, and the necessary supply of drugs."—*Times*.

THE INFLUENZA.

By letters from Sydney, dated the 14th of October, we learn that the Influenza

had then recently made its appearance, and was spreading in that part of the world; and by the communication of Mr. Brande, at p. 114 of our present number, the disease appears to have shown itself at the Cape on the 1st of November. It broke out in the Northern parts of Scotland before the end of last year, and had been prevalent somewhat sooner in the countries bordering on the shores of the Baltic, so that its occurrence there and in New South Wales seems to have been nearly or altogether contemporaneous; a fact sufficiently remarkable, when we consider the great difference of geographical situation, and extreme dissimilarity of climate in those regions.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

DR. BRIGHT IN THE CHAIR.

IN our last we gave an abstract of one of the papers read on the 11th inst.; the other, which we subjoin, was entitled,

Facts and Inferences relative to the Condition of the Vital Organs and Viscera in general, as to their Nutrition in certain Chronic Diseases. By JOHN CLENDINNING, M.D.

The author begins by observing that the function of nutrition, taken in its widest sense, must be considered as the leading function of the animal body; a position which he conceives to be only in any degree questionable in the case of the higher orders of animals, in whom (and especially in man) it has appeared to many inquirers that the nutritive function, previously supreme, becomes subordinate and dependent upon emanations from the nervous structures. Neither does its aspect appear to him less important in a pathological point of view; inasmuch as if we were to separate diseases into two groups—the first including all such as involve, as a principal element, some important lesion of the nutrient function—we shall have in the second group few leading acute diseases, and almost none of a chronic character. Hence it follows that the assemblage of functions included under the name of nutrition is second to none other in its importance as a study to the physician; and probably peculiarly so, as it bears upon the history of the diseases of the heart and lungs.

Over-nutrition, or hypertrophy of the heart, is generally known to be one of the most frequent diseases of that organ, and one of the most common of fatal diseases; but the observations of the author lead him to apply this principle more extensively, and seem to him to establish the inference that the condition of the heart above referred to is the main cause of the sufferings and mortality ascribed by authors to numerous chronic diseases—viz. to asthma, chronic catarrh, dropsy (in all its forms), emphysema pulmonum, chronic hepatic diseases, phthisis catarrhalis, catarrhus suffocativus, dyspnœa chronica, tussis senilis, miliary tuberculation of the lungs, &c.; also of no small part of the gravity and fatality of acute diseases of all the great viscera, as well as of typhus and other continued fevers.

On the present occasion the author proposes to address himself only partially to a question which will be more extensively discussed in a future communication, and to state some facts tending to throw light upon the following inquiries.

What are the modifications impressed on the nutrient functions in the viscera in certain chronic diseases? (*e. g.*) the defect of supply, or excess of waste produced in the same manner amongst the external and internal parts in phthisis? Does hypertrophy of the heart beget or indicate a general or partial tendency to hypertrophy? The facts adduced by the author consist principally of measurements by weight of nearly all the principal viscera of 172 subjects, and are arranged in tabular form as follows:—

Table 1 contains the weight of the encephalon, heart, and other viscera, of 8 several males who died of various known diseases, not phthisis or morbus cordis, between 21 and 60 years of age.

Table 2 contains like particulars of 29 females who died under like conditions.

Table 3 contains like particulars of 12 males above 60 years of age, who died neither of phthisis nor morbus cordis.

Table 4 contains the cases referred to in Tables 1 and 3, combined.

Table 5 contains particulars, arranged as above, of 22 females dead of phthisis, between 21 and 60.

Table 6 contains like particulars of 16 females who died under the like conditions.

Table 7 contains like particulars of 55 males who died of morbus cordis, between 21 and 60 years of age.

Table 8 contains like particulars of 30 females who died under the like conditions.

From these Tables it appears that in phthisical diseases, and still more in those of the heart, the vital organs receive more than their ordinary share of nutriment,

instead of participating (as in the former case might have been expected) in the general processes of waste.

The author subsequently alludes to many other observations of high practical interest connected with this subject, which will probably furnish the materials of a future communication.

MEDICO-BOTANICAL SOCIETY.

Preparations and Doses of Conium.

THE concluding portion of Mr. Judd's paper, with experiments, showing the effects of *Conium maculatum* in varied doses upon the animal economy, as well as comparative trials of extracts made from the plant by different processes, was read on Wednesday last: it excited great interest, and is in the detail a mass of information highly valuable to the medical profession.

His experiments point out the many causes which may modify the anticipated action of a medicine, the mode of introducing it into the system, the quantity given, and that which is of still more importance, the manner in which that medicine has been prepared. He stated that little reliance can be placed upon the unvarying strength and curative powers of conium and some other extracts, arising from the ignorance of individuals in collecting the plants at the proper periods, and from the preparations not being made uniformly by the best mode.

The extracts selected for experiments were prepared by Mr. Squire, of Oxford-Street, by spontaneous evaporation, by Messrs. Allen, of Plough-Court, in vacuo, and by Mr. Battley, of Fore-Street, by a process described last session in the Transactions of the Society. The marked difference between the first and last of these extracts, in their effect upon the human subject, gave rise to the series of experiments subsequently made upon animals, with a view to form a correct judgment respecting their value. The author found their strength to vary exceedingly; for on the youngest animal 3 grains of Squire's extract produced effects which 12 grains of Battley's could not; and on the oldest animal, 10 grains of Squire's was followed by effects which 20 grains of Allens' did not induce, and even so large a portion as 60 grains of Battley's failed to cause on the same animal. An interval of a week, and in some cases more, was allowed between each dose, so that the effect of one might fully subside before another was given.

The symptoms induced by Mr. Squire's preparation closely resembled those re-

corded to have been produced by the fresh plant, acting very curiously on the sympathetic and abducent nerves. The physiological questions as to the treatment of some hitherto incurable diseases by conium, together with many hints as to its use, as well as to the probability of its being identical with the Athenian state poison, which destroyed Socrates, gave to this paper a finish highly interesting.

ROYAL INSTITUTION.

Friday, April 14, 1837.

EARL STANHOPE IN THE CHAIR.

Mr. Griffith on the Art of Veneering.

THE subject of this evening's lecture was the art of veneering, with the connected arts of carving on wood, buhl-cutting, or inlaying, and French polishing. The lecturer was Mr. Griffith, who, though himself (as we understood) not an artist, succeeded in making the principal processes readily intelligible, and very interesting, to a numerous audience. The entertainment in the theatre consisted mainly of practical demonstrations of the principal steps of the several arts, by skilful artisans in attendance on the lecturer, together with a few experimental illustrations, and a running commentary on the various processes exhibited by the assistants. To make the operations of the veneerer readily intelligible in a limited space, and without cuts, would be impracticable,—the processes are almost wholly mechanical, and though simple to a spectator, would be, if concisely told, vague and unsatisfactory to the reader. The principles announced for illustration in the title of the evening's lecture, viz. "capillary and cohesive attraction, and their applications to the art of veneering," were traced through the various modifications undergone by the veneerer's materials as to form, relative position, &c.; and the superior success of modern veneerers was shown to depend on a more skilful conversion of those forces to the purposes of the art. A striking proof of the efficiency of the circular saw, which of late years has superseded every other for slicing wood to be used in veneering, was exhibited by the lecturer. It was the top of a table, apparently 18 or 20 feet long, and some 4 or 5 wide, covered throughout, as we understood, with one single slice of veneer.

At the close of the lecture, the spectators were shewn specimens of buhl-cutting and inlaying, of carving, and of French polish, executed during the lecture.

Mr. Faraday announced for next evening—Mr. Brockedon on Cameo and Metal Die Engraving.

In the library were numerous curiosities—Tropical fruits, presented by Mr. Ward; samples of Smith's wire-rope for rigging; specimens of porcelain painting, very beautiful, from Rockingham, near Rotherham, Yorkshire; very convenient and apparently efficient trumpets for use under the coiffure by ladies troubled with defective hearing; and others.

ST. GEORGE'S HOSPITAL.

Wound of the Thorax and Abdomen—Compound Fracture of the Cranium—Necrosis of the Radius—Hare-lip—Diseased Finger—Dislocation of the Os Femoris on the Os Pubis, with Compound Fracture of the Leg.

In the week just ended seventeen accidents were admitted, under the care of Mr. Babington, two of which terminated fatally, and were interesting in several particulars.

Wound of Thorax and Abdomen.

A man was admitted April 7th, who had fallen while cleaning a window, and had impaled himself upon one of the area spikes, which had made a punctured wound low down in the right side, in which wound the *eleventh* rib was felt fractured; and when the finger was cautiously introduced, it rested on a smooth firm substance, which was believed to be the liver, but what covered it, so as to intervene between that viscus and the finger, Mr. Babington could not accurately ascertain. It was a point for speculation, therefore, whether the spike had gone far in, and whether it had passed into the cavity of the chest, or that of the abdomen,—or had punctured both cavities by passing through the diaphragm. No particular distress beyond some depression in the first instance was produced; suppuration was rapidly established, and the pain was nearly confined to the neighbourhood of the wound. On the 8th he was bled and kept low, from having some inflammatory fever. On the 9th he breathed with much hurry and labour, and with a good deal of mucous râle on both sides of the chest, but chiefly on the left side, with a rapid pulse, not very hard; he had no tenderness of the abdomen till pressure was made near the wound, when pain was produced. Mr. Babington believed, therefore, that there was no peritonitis, but inflammation chiefly of the pleura and diaphragm. The next day (the 10th) there was less mucus in the bronchia, and less labour in respiration, but the countenance was dark and shrunk, with expression of anxiety, and the pulse very rapid, with

complaint by the patient of much debility. He died early on the 11th.

On examination, the right pleura was found covered with recent lymph almost throughout, but chiefly on that portion which covers the lower part of the lungs and the diaphragm. The eleventh and twelfth ribs were broken, and a considerable opening between the broken ends led into the cavity of the pleura, without any injury of the lung. On opening the abdomen a good deal of blood was found in various parts of the interior, which could be traced to the right loin, where a large quantity lay among the muscles of the side and behind the colon, both in the peritoneum and on its outside. On the right side of the liver, near its right convexity, and under the diaphragm, some blood was found, fixed in what appeared to be a narrow rent in the liver, united by the blood, and with a small punctured laceration by the side of this longitudinal wound. The diaphragm above it was bruised, but did not at first appear to have been perforated; so that it seemed as if the liver must have been torn by contusion from the point of the spike, rather than punctured. On more careful dissection, however, it was found to have been distinctly lacerated, so that the spike had broken the two ribs, and entered the chest,—then had perforated the diaphragm obliquely in the course of its fibres,—then it had entered the abdomen, and punctured the liver, from which the hæmorrhage had chiefly arisen, and had perforated this viscus to the depth of nearly three inches, the sides of the punctured wound having perfectly closed by adhesion, without any inflammation of the peritoneal side of the diaphragm, although the pleural side was extensively and copiously covered with lymph, and although the two membranes are so near one another.

Compound Fracture of Cranium.

April 11th.—A man was admitted who had been kicked by a horse on the back of the right side of the head, and the bone not having been perceived to have been injured, and there being a good deal of hæmorrhage, a compress was applied to stop it, which Mr. Babington did not remove when he saw him a few hours after his admission. The next day (the 12th) a good deal of distress was expressed in the countenance, with partial stupor and drowsiness; and on taking away the bandage a fracture was perceived. On consultation with Mr. Keate and Mr. Hawkins, Mr. Babington made an incision, of a crucial form, exposing a very deep depression of several pieces of the occipital and parietal bones, the centre of the injured pieces being most depressed, and irregularly driven down. Elevators

were used, by which several of these pieces were raised; and as there seemed to be a good deal of extravasated blood under the bone, and hæmorrhage was still going on freely from beneath it, the pieces were all taken out (which was done without much difficulty, as they were much loosened), and the edges of the opening, which was about two inches and a half in diameter, were made smooth. On raising one of the last and largest of the pieces of depressed bone, some pus was seen to issue from a small opening in the dura mater, and about a full ounce of dark purulent fluid came away before the wound was dressed. It was thought the patient was more lively after the operation, and he said he had less pain than before. The operation was performed about thirty hours only after the injury, so that the flowing of so much purulent fluid at so early a period made it probable that it came from the cavity of the arachnoid membrane, and not from the interior of the brain. In the evening he looked more stupid again, and was very drowsy and listless. On looking at the wound, a little substance like a portion of brain blocked up and protruded through the opening of the dura mater, the moving which by the probe afforded no exit to more fluid. On the 13th this little protrusion looked sloughy, and had not increased: in the middle of the day some convulsions occurred, not confined to either side, but general over the body; the convulsions did not return, but more stupor took place, and he gradually became more comatose till his death on the morning of the 14th, about three days after the blow.

On examination, the bone was found to have been fractured to some distance beyond where the depression had taken place; and on the outer surface of the dura mater much blood was still adherent. The wound of the dura mater led into the right side of the cavity of the arachnoid membrane, and the surface of the hemisphere and the interior of the dura mater were covered with lymph, without much fluid however, and the lymph did not extend towards the basis of the brain. Under the surface of the wounded dura mater, a portion of the brain, about an inch in diameter, and half an inch in depth, was softened, and mixed with blood, and of a yellowish-green colour, as if half putrid, which had no doubt been bruised or torn by the injury, and a little portion of which, perhaps, had formed the protrusion before alluded to.

Various operations.—The operations this week were unimportant, being only (on the 13th instant) one for necrosis of the radius, by Mr. Hawkins, who removed a piece of dead bone, about

two inches long, and cut off some sharp irregular pieces of new bone, which had locked it in, with the bone-nippers, the disease having existed three years;—one for hare-lip, by Mr. Walker, in a little infant, the fissure extending into one side of the nose, and through the alveolus, so as to require the excision of a portion of it, with the cavities of two incisor teeth, in order to allow the cut edges of the fissure to be brought together by means of one hare-lip pin and one ligature;—and the amputation of the middle finger, by Mr. Hawkins, who found more of the metacarpal bone dead than he expected, so as to require to be cut off with the bone-nippers, the phalanx and metacarpal bone having become diseased from a strain seven weeks previously.

*Dislocation of the Os Femoris on the Os Pubis,
with Compound Fracture of the Leg.*

A case of this rare form of dislocation was admitted on Monday. Sir A. Cooper states the proportion of this, as compared with the three other forms, as one to twenty, and that it generally occurs from a false footing—as by the foot unexpectedly dropping into a cavity in walking—by which the femur is jerked out of the acetabulum, and thrown upwards and inwards on to the pubis.

In this man the accident occurred differently. He is an excavator, and in the course of his work found himself in danger of being buried under the mass he was undermining. He endeavoured to escape, but not in time to avoid receiving its weight on his loins and back part of his thighs, by which the left femur was dislocated,—the same leg suffering a compound fracture. Reduction was attempted at the place where the accident occurred; but after four or five hours' trial with the pulleys (aided by bleeding) without success, he was sent to the hospital on Monday. The case was well marked. The head of the bone formed a large prominence on the os pubis, having the femoral vessels (pushed an inch internal to their usual course) on its inner side; and there was the corresponding hollow on the dorsum ilii. The limb was a little shortened and turned outwards, admitting of a very limited rotation inwards. The leg was put up in splints, and a grain of tartarized antimony administered frequently, to keep up a nauseating effect, and one o'clock on the following day appointed for the reduction; at which hour he was carried on his bed into the operating theatre, and laid on his right side on a low bed. The pelvis, fixed by a well-padded strap passing under the left side of perineum, and passing over his shoulder, was fastened to a staple in the wall; a wetted bandage passed round

the lower part of thigh, and the pulley bandage strapped over it; to this the pulleys were hooked, and then fastened to a point opposite that to which the pelvis was fixed; so that extension was made in a line nearly straight downwards, having a slight direction backwards.

Mr. Walker, who conducted the reduction in the absence of Mr. Keate, having passed a jack-towel round the upper part of the thigh, and over his shoulders, by means of it drew the head of the bone, as the extension proceeded, downwards and outwards, towards the acetabulum. The fixing of the pelvis was much assisted by a towel passed round it, and held in front, as a counter-extension to Mr. Walker's. All being ready, the extension was steadily proceeded with, the head of the bone gradually receding under it. At the end of twenty minutes the cord of the pulleys suddenly snapped. The femur was thus released; and, seizing the favourable moment, it was immediately flexed on the pelvis with a rapid motion, and the head of the bone slipped into its socket.

The fracture of the leg, of course, considerably embarrassed the proceedings; and it remains to be seen how far the manipulations necessarily required by the reduction of the dislocation may influence the progress of so serious an injury as a compound fracture.

ON THE
IMPORTANCE OF PERCUSSION
IN THE
DIAGNOSIS OF ASCITES AND EN-
CYSTED OVARIAN DROPSY.

By M. ROSTAN.

A CASE of ovarian dropsy gave M. Rostan an opportunity of making some remarks on the diagnostic signs of that disease and ascites, and especially on the signs afforded by percussion, which he considers the most important of all, in cases where the diagnosis is difficult. When we strike the belly of a patient labouring under ascites, where the effusion has not gone so far as violently to distend the abdominal parietes, if we proceed from the inferior to the superior part of the abdomen, we shall at first have a flat sound, while, at the most prominent part—that is, about the umbilical or epigastric regions—we shall perceive a clear sound, like to that which we obtain on striking a bladder full of air. In encysted ovarian dropsy the reverse is the case—that is, the sound is clear at the inferior part, and dull at the superior. These differences are produced by the different relations which fluid effused into

the peritoneum, and an ovarian cyst, have to the intestines. The dulness which we find at the inferior part of the abdomen in ascites, is the result of the accumulation of the effused fluid, which gravitates to the most dependent part of the peritoneal cavity; and while the collection of fluid augments there, the intestines become displaced—and it is important to know of this displacement, because it is it which accounts for the clear sound in the superior regions. In fact, this sound is the result of the less specific gravity of the gases contained in the intestinal cavity, in virtue of which the intestines are raised upwards, as the fluid on which they float accumulates below. The state of the parts, in encysted ovarian dropsy, is not at all the same; for in ascites the fluid is freely spread out within the peritoneum, while, in the other case, it is shut up in a more or less resisting bag, which gradually increases in size by the accumulation of serous fluid in its interior, and, as it becomes displaced, presses on the intestines of the side opposite to that on which it develops itself, and at last ends by occupying a greater or smaller space in the abdomen. This case is very different from the first; here the intestine does not float in the accumulated fluid, as it is separated from it by a wall of membrane; and therefore, instead of being raised upwards, it will be kept and pressed against the inferior part of the abdominal parietes; and thus, in this case, we find its dull sound high up, corresponding to the cyst, and its clear one low down, where the intestines are to be found distended with gas. In the generality of cases these signs are sufficient for the practitioner; but they may not be sufficient under certain circumstances which are not common, and which may be reduced to the following:—

1st It may happen, in either case of dropsy, that the intestine is not distended with gas: in that case, the signs which have been just pointed out become useless; but this state is only transitory, as the formation of gas takes place during digestion. In such a case the examination need only be deferred for a few hours.

2d. We may meet with a case of ascites, in which the walls of the abdomen are so much distended, that the mesentery is not long enough to allow the intestine to float freely in the fluid. In that case you must percuss the patient, making him vary his posture.

3d. We may suppose that a cyst, in its development, occupies a place between the intestines and the posterior wall of the abdomen, and is situated under the mesentery; and that, in augmenting its size, it forces the mesentery along with the intestines towards the superior part of the abdomen.

In this case, we must confess, there will be a great source of error, because percussion will give the signs belonging to ascites. It is in cases like these that we feel the importance of not confining ourselves to one sign, but of accurately scrutinizing every symptom that can throw light on the diagnosis.—*La Presse Médicale*.

M. VELPEAU ON THE DIFFERENT KINDS OF HYDROCELE,

AND THEIR TREATMENT.

IN these days it is generally acknowledged that internal remedies, and simple topical applications, can never remove chronic hydrocele. The operation employed for the radical cure of this effusion is so simple, and so constant in its effect, that, even supposing that we may happen to cure a certain number of hydroceles by topical treatment, it still ought almost invariably to be adopted. Yet this operation has been strangely varying since the days of Celsus. The incision of the tumor, the excision of a part of the sac, scarification of its interior, the cautery, either by red-hot iron or caustics, the employment of tents, setons, canulæ, and different injections, have all been practised, although modern surgery has ended in rejecting most of them. The cautery, under whatever form, ought to be finally proscribed. Tents and canulæ ought also to be abandoned, although some men of renown have, in our days, given them their support; for it is undoubtedly true that, though they have succeeded in a certain number of cases, they often, instead of producing simple adhesion of the surfaces, cause them to suppurate; and their success is not at all so constant as to entitle them to be compared with the measures usually employed. The same may be said of the seton, for it will never for the future be employed after the manner of Pott. There remain, then, the methods of incision, excision, and injections.

Incision is performed by means of a straight or convex bistoury, and should embrace the whole anterior wall of the cyst, proceeding from above downwards, and from within outwards. As the object in this operation is to produce the adhesion of the two sides of the tunica vaginalis, by exciting a suppurative inflammation, the wound ought to be filled every day with lint, and dressed, that the cicatrization may commence at its bottom. In this way a permanent cure is usually effected; but not unfrequently some points

of the membrane escape suppuration, and give rise to small cysts, in which the disease may recur. The pain and the accidents which sometimes attend this operation, and the length of treatment which it requires, have caused it to be generally rejected, at least in France; so that it is only looked on as a resource to fall back on in some few cases.

Excision is a painful method, and necessarily more tedious than the others; so that it also ought to be proscribed in simple hydrocele of the tunica vaginalis.

The idea of injections for the cure of hydrocele is usually attributed to an army surgeon of the name of Munro; but they had been employed long before. Celsus had advised the injection of a solution of nitre, after evacuating the fluid contained in the hydrocele. Lambert, of Marseilles, says distinctly, in 1677, that the best mode of treating hydrocele is to draw off the fluid by a canula, and to excite inflammation by injecting a stimulating solution through the same canula. Although there is no difference of opinion as to the best instrument to employ, or the best way to make the puncture, it is not so as to the fluid to be injected. The ancients used solutions more or less acrid. Munro employed alcohol, pure or diluted with water; red wine was at the same time tried. Others made use of solutions of caustic potass, or sulphate of zinc. M. Velpeau and others use camphorated alcohol. Cold water, milk, and even the fluid of the hydrocele itself, have been tried. All these remedies succeeded in some cases, because their object was a very simple one—to excite adhesive inflammation inside the tunica vaginalis, which any of these substances might produce.

The object is to ascertain which succeeds best, and with the least inconvenience. Let us first proceed to examine the good and the bad effects of vinous injection, and afterwards of the others that may be substituted for it. After vinous injection in some patients, the inflammation attains its height the day after the operation; in others, not till the fourth, fifth, or even sixth after it. In a patient on whom Velpeau operated in 1831, symptoms of inflammation did not appear till the tenth or twelfth day after, although the patient was young, and of a somewhat nervous temperament. He had been operated on the year before on the other side, and yet had not suffered pain. Of both operations the success was complete. The local pain is sometimes attended with fever and symptoms of constitutional disturbance. M. Velpeau has heard of two cases where the inflammation extended even to the veins of the

cord, and caused death; but such cases are rare. Sometimes, on the contrary, the system seems unaffected by what passes in the cyst. The following is an example:—J. L., ætat. 49, was admitted, June 10th, into La Charité. Had syphilis fifteen years ago, but was of good constitution, and had suddenly perceived a tumor in his scrotum, which gave him no pain, and had probably existed for some time. The tumor was of the size of a large egg, and the testicle small; there was fluctuation, and no change of appearance on the exterior of the scrotum; general health good. On the 13th he was punctured: about a glassful of lemon-coloured fluid was discharged. A single injection of warm wine was made, and the part covered with compresses steeped in the same liquid. The patient had acute pain till three o'clock in the afternoon, which was less on the 14th. From this time he had no pain, and by the 19th the scrotum was of its normal size. On pressing it on the 23d, crepitation of air was felt, but there was no pain. On the 26th a vesicular eruption appeared, which, under simple treatment, was gone by July 2d, when the crepitation remained. Mercurial frictions were employed on the scrotum for fifteen days, and the man went out cured.

The matter that is effused in the tunica vaginalis after the operation for hydrocele is in this respect remarkable—that it is soft, gluey, or semifluid, and formed, strictly speaking, by plastic lymph. In many cases there is added to this matter a certain portion of serum, or even of true pus. This effusion lasts while the inflammation is increasing. Its re-absorption takes place by degrees, so that the parts may regain their natural size in twenty days, a month, or six weeks. The inflammation seems also sometimes to involve the scrotal envelopes, causing their thickening, and also the testicle, the swelling of which is in some degree a necessary accompaniment of the disease or the operation. While the most fluid parts of the effusion disappear, its more solid part becomes organized, and is insensibly confounded with the two walls of the tunica vaginalis, being converted into cellular tissue. The cavity between the testicle and the tunica vaginalis at last becomes entirely obliterated. Pott, however, seems to think that this obliteration is not indispensable, and Mr. Ward maintains that hydrocele is often cured without it. On this point M. V. mentions an observation which he made at La Pitié in 1831. A man who had been operated on by vinous injection, died suddenly of apoplexy, when the scrotum had nearly returned to its natural size. The tunica vaginalis was

found to be intact, and of its natural lustre, while it had contracted no adhesion with a greenish filamentous and gelatinous mass which was contained in its lower part. In two other cases, however, which he examined after death, the vaginal cavity had entirely disappeared. Sir A. Cooper gives a case where the cavity was only in part obliterated; but in such a case is the cure radical? Occasionally, though rarely, the inflammation goes the length of producing abscess, and in that case all the usual symptoms of suppuration are betrayed by the scrotum. M. Velpeau then details two cases, in the first of which the inflammation gave rise to suppuration, and in the second, to abscess and fistulæ. In another case the tumor diminished to half, or three-fourths of its original size, and there the cure remained incomplete. Of this kind are the cases where topical astringents or resolvers are especially useful. They sometimes effect the removal of the tumor, and complete the cure. M. V. then details two cases, in which the tumor having only partially disappeared, recourse was had to friction, 1-5th gr. of hydrochlorate of gold and soda being rubbed on the tongue every morning. In about three weeks complete cures were effected. If the tumor is of great size, for instance as large as the head of an adult, Bertrandi recommended the making several punctures before injection, in order that the size of the scrotum might be reduced, and too large a surface not be inflamed. Nevertheless, M. V. has operated on a man of 49, whose hydrocele, of long standing, measured twenty-four inches in circumference, and the cure was effected in the ordinary time. While we make the injection, the patient usually feels pain, which extends along the passage of the cord and the spermatic vessels, and this is a proof of a sufficient degree of irritation being excited. There is also no harm if pain be felt in the flanks and lumbar regions; indeed, if no pain be felt, it makes us augur ill of the chance of success. As people are of different degrees of sensibility, and the tunica vaginalis may be more or less altered, they feel this pain in different degrees. In aged individuals, in hydrocele of long standing, and where we suspect decided thickening of the cyst, the wine must be well heated, or rendered a little more irritating than when employed in cases of a different nature.—*Là Presse Médicale*.

ON THE INOCULATION OF MORPHIA,

AND SEVERAL SUBSTANCES.

M. MARTIN SOLON, physician to the *Hospital Beaujon*, in Paris, began by trying the

effects of puncture, without putting any thing on the lancet. He then charged the lancet with distilled water; this puncture was only attended by the usual phenomena—small transient areola; but when the puncture was made by a lancet impregnated with alcohol, there was a *papula*.

When the punctures were made with a lancet charged with a preparation of opium, there was always a *papula*, with areola, as announced by M. Lafargue, though not the same in all subjects.

Other experiments have been made, in order to ascertain if the papulæ were caused by introducing opium under the skin, and out of twenty punctures, by the belladonna, M. Martin Solon has seen nine papulæ from one to two lines, but generally smaller than those produced by opium, and its preparations; all were followed by erythema and pruritis.

The introduction of a mixture of stramonium and sugar has produced a small papula, but without pruritis. The extract of hyosciami has no effect.

Strychnia has been inoculated on the spinal column by more than sixty punctures. Water has sometimes been employed as a vehicle; sometimes alcohol. Half of these punctures have given rise to the formation of circular papulæ, from two to three lines in diameter, with an areola rosea. Some of those papulæ had an elliptic form, and acquired the diameter of seven or eight lines.

Some of these papulæ and areola have not occasioned pruritis.

Four punctures made with a lancet impregnated with the oleum euphorbia have manifested no phenomenon during the day, pruritus during the night. The following day the puncture was red, inflamed. The third day the epidermis was raised, and on each puncture was a pustula of a line and a half in diameter, umbilicated in the centre, full of purulent matter, and a painful sensation of heat.

The citron oil produced the same effects; thus the pustulæ were nearly of the same size, but were itching and painful.

The puncture of a lancet impregnated with the tart. stib. induced no phenomena during the first forty-eight hours. After that an erythema round the puncture—pruritus, raising of the epidermis. The third day a pustula, like that produced by the pomatum stibiat.

M. Lafargue proposes taking advantage of these circumstances to ascertain in medical jurisprudence, whether, in cases of sudden death, narcotic poison has been introduced into the stomach.

These experiments should be renewed and brought forward, as it is not yet known what advantages may result from them.

M. Martin Solon tried to use them therapeutically, and we have reported a case of cure in this present number; but it is too isolated to deserve entire confidence. These punctures are on the same principle as the endermic method.—*Continent. and Brit. Med. Rev.*

RESUSCITATION

OF A

MAN BURIED ALIVE IN A WELL.

THE *Journal de l'Indre* states that the labours for the relief of Billard, who was buried at the bottom of a well at Féré la Rivière, in the Indre, France, were carried on with the utmost expedition, skill, and caution, till ten o'clock in the night of the 29th ult., when the top of a vaulted mass which covered him was reached. On coming to this point all the judgment of the engineers was required; for, on inspecting the position in which the stones lay, the utmost apprehension was entertained that any attempt to remove them would cause the whole covering to fall in upon the wretched man below. His voice was heard more distinctly through the interstices, and the precise spot occupied by him was ascertained. Circumstances, however, rendered a prompt decision indispensable. The sufferer had now been, as it were, buried alive for sixty hours, without food, without being able to stir, and scarcely able to breathe. His reason began to give way, and delirium came on. He was heard to bemoan his fate, then to utter loud cries demanding food, and afterwards to break out into wild paroxysms of gaiety. A physician present declared that no time should be lost, and that every effort must be made for his release at all risks. The stones were in consequence removed gradually and with such care that, at a quarter before 11 o'clock in the morning of the 30th, the sufferer was taken out of the well, still alive, but in the last stage of exhaustion. He was wrapped in blankets, his head being covered with a light cloth, and carried into a house close at hand, and put to bed in a dark room, where, after taking a few spoonfuls of weak soup and a small quantity of wine, he fell asleep. His intellects returned, but his pulse was feeble, making, however, 125 pulsations in a minute. His skin was cold, and he suffered severely from thirst. After some little time his limbs, which had become stiff and paralyzed, regained their powers, and his body recovered its natural warmth, but remained full of soreness and pain.

The following is the account given by him of his condition while in his confinement. He was standing when the fall took place, and the stones inclosed him up to the neck; his legs were crossed and his arms pinioned to his body, but, by a providential circumstance, the fragments formed a vault of about six inches high over his head. He contrived to eat a part of the leathern shade of his cap, and a piece of his smock-frock, and tried to gnaw one of the stones within reach of his mouth.—*Times.*

MEDICAL EVIDENCE

IN RESPECT TO THE

MURDER AND DISMEMBERMENT OF MRS. HANNAH BROWN.

MR. JOHN BIRTWHISTLE sworn and examined by Mr. Adolphus, as follows:—

Witness.—I am a surgeon, and reside in Mile-end-road. On the 6th of January I saw a human head in the dead-house at Stepney. I examined it closely on the following day, the 7th of January. It was then exactly in the same state. I found that it had received a blow on the right eye, the coats of which were injured, and the humours consequently let out. There was a blackness around the eye, from the rupture of the smaller vessels. It was what I should call a tremendous black eye, which appearance was caused, in my opinion, before death. After the death of the body a blow on the eye would not have produced that effect. The eye itself remained in the head devoid of its humours. There was a crescent-shaped laceration on the cheek, and the lower jaw was fractured. The former, in my opinion, was produced by incision, and the latter was produced by a crush or jam. Both appearances, I think, took place after death. There was also a wound on the top of the head, apparently produced by a blow. Upon examining the neck, I found that the cervical vertebræ had been sawn through. A saw of this description (the one found in Greenacre's box) would have been likely to have done it. I have since compared this saw with the bones of the neck, and found that it exactly fitted. After I had examined the head and neck in the manner described, I put it into a small hamper, tied it up, and sealed it with my own seal. I then gave it to two policemen, who took it to the workhouse at Paddington, where I saw the hamper on the following morning, with my seal unbroken. I subsequently examined the

head in company with Mr. Girdwood, the surgeon, who agreed in opinion with me, that the wounds on the face and the injury to the head were produced after death, and that to the eye was produced before death. We then opened the head, and found an internal wound on the back part, which did not appear externally. I think from its appearance that this internal wound was produced before death. My opinion is, that if a blow had been struck on the eye, the fall from the force of that blow would have produced the wound on the back part of the head. It appeared to me that the throat had been cut before death. The head was entirely free from blood, which I think would not be the case if the throat had been cut after death.

Cross-examined by Mr. Price.—I never witnessed a case in which the head was exhausted of blood by means of a broken neck. The blood will flow while the body is still warm. Warmth might remain in the body for an hour or two after death. I have been a surgeon since 1827, and have examined many bodies recently, but not immediately, after death. Mr. Girdwood attended the latter examinations of the head at Paddington Workhouse. I consider him a very clever surgeon. There is a distinction between a bruise and a contusion. The latter might not produce any blood upon the surface, but a bruise always does. I did not examine the neck of the deceased myself, but I was present, on the 8th of January, during the whole examination of the head. The bones of the neck were taken out by Mr. Girdwood, leaving the flesh only. There was an observation made in dissecting the neck, with regard to the retraction of the muscles. After the column of the neck had been separated from the neck, Mr. Girdwood took possession of it, and I believe has it now. From the jagged appearance of the vertebræ of the neck, I should say that it must have been sawn through, and not cut with a knife. The saw produced would have done it. I did not examine the spinal marrow. The internal wound on the back of the head inclined towards the left side. I cannot say whether or not that blow might have caused a suffusion of blood in the head; it might or might not.

Mr. G. F. Girdwood, examined by Mr. Bodkin.—I have practised as a surgeon for twelve years, and am surgeon to the parish of Paddington. On Sunday, the 8th of January, I examined a human head, in the workhouse, in company with Mr. Birtwhistle, the last witness, and some other gentlemen. The result of all the examinations of the body of the de-

ceased were published in the newspapers on the following day, the 9th of January. On Sunday, the 8th, I first saw the head at Mile-end workhouse, and made a minute examination of it on the following day, when it was brought to Paddington workhouse. The head had the appearance of being that of a female. The nose had a slight twist on the right side. There were several wounds and bruises. There was a large wound on the left cheek, in the shape of a crescent, commencing under the left eye and terminating within about an inch of the mouth. That was an incised wound, and merely superficial. In my judgment it was inflicted after death. There was under the wound just described a large contused wound, producing a fracture of the jaw, inflicted after death. On the other side of the face there was another contused wound at the right angle of the jaw, and there too the bone was broken. On the same side of the jaw there was another contused wound, opening right through into the mouth. Both the latter wounds were, I believe, produced after death. Several of the teeth of the upper jaw were forced out, and the tongue was cut between them. This occurred also after death. The right eye had received a blow. There was a wound in the eye itself above the pupil, which had entered into the eye and occasioned the escape of the humours. About and around the eye there was an ecchymosis surrounding the eye, commonly called a black eye. Within the area of this bruise there were three small superficial wounds—one was external to the orbit of the eye; the other was superior to the orbit of the eye, and the third was on the side of the nose, and exposed the bone of the nose. I believe the wound of the eye and the discolouration around it to have been produced before death, and the three marks I have mentioned after death. The blow given would imply great force, from the eye being knocked out. The blow might have been produced by a fist. The blow produced no abrasion of the skin, from which I should say that the blow must have been a dull one, but it is impossible for me to say whether the blow was inflicted with the fist or with an instrument. It certainly would have deprived the party so struck of sense for a time. The length of time would depend entirely upon the nervous system. The effect of such a blow upon a female would very probably have deprived her of sense, so as to give an opportunity for further injury. The blow being struck in front, if any injury to the back of the head occurred at the same time, it would have increased the insensi-

bility or stupor. On the crown of the head there was a large contused wound, at one end of which there were two contusions, but these and the wound itself took place after death. The scalp of the skull was cut crossways. The witness proceeded to describe the appearances which were exhibited in the interior of the skull. The red appearance of the *dura mater* indicated a disturbance within, produced by the injury in front by some opposing or resisting body. The internal injuries at the back of the head must have been occasioned by that part coming in contact with some hard substance. The injuries to the eye could not have been caused by a blow struck on the back part of the head, whether that blow was occasioned by a fall or otherwise. I afterwards proceeded to examine the neck, and found that the fifth bone had been sawn, but not quite through, from front to back. The remainder appeared to have been broken off. There was no appearance of dislocation of the neck. The fleshy part appeared to have been cut with a sharp instrument such as this (the knife found in the prisoner Greenacre's box). The muscles of the neck were retracted. They would continue so while life existed. In the case of a person meeting a sudden death, that appearance of the muscles would continue for some hours, but the retracting power would continue to grow less every hour. I found all the large blood-vessels of the head quite empty. Independently of the separation of the neck from the head, there were superficial cuts around the neck. The principal cuts were not continuous, in consequence of the muscles being placed lower down in the neck, so that the incision which cut through the windpipe is full two inches lower than the first incision. The cut through the windpipe also cut through the carotid arteries, and it is on a level with the division of the gullet. The first superficial cut left a flap of skin hanging over, and adhered to the body.

By Lord Chief Justice Tindal.—The cut above was the first cut, and all the cuts in the neck must have been inflicted during life, or very shortly after death. The suggestion which occurred to my mind by all these appearances, was, that if the blow which knocked out the eye had not been sufficient to produce death of itself, the cutting of the throat would of course have at once occasioned death.

Cross-examined by Mr. Price.—A bruise and contusion I should say are synonymous terms. Ecchymosis might be produced either by one or other, before death, but not after. A blow at the back of the

head would produce a lodgment of blood within the cranium, but not to any extent; I never knew a blow on the back of the head produce an injury on the opposite side of the head, and it could not occasion a lodgment of blood in the eye. It is impossible to produce all the phenomena of ecchymosis on a cold and dead body. I am the author of a reported inspection of the head of a female published in the *MEDICAL GAZETTE*. Blood will flow from a vessel divided after death for several hours. I think an experiment took place in which blood flowed for sixteen hours after death; but I speak from memory, and may not be quite correct: I cannot say how long the head would take to empty itself of blood after death. The separation of the head from the body, in this instance, could not have been done by a professional man as an experiment. I did not observe any injury to the spinal marrow, judging from the external bones. I did not examine the marrow itself, but there might have been an injury to the spinal cord, which would cause death without producing any external appearance. An injury to the spinal marrow might produce instant death, but it is not very likely that such an instance could occur without leaving some slight trace of the injury externally. The fact of the head having remained for some days in the water, would not have removed the appearance of external injury. To ascertain if a person died from an injury of the spinal marrow, it would be necessary to examine the spinal marrow itself. A blow externally might so injure the spinal marrow as to occasion death, but I cannot imagine that it would do so without leaving some appearance in the spine. I cannot imagine a case in which the sudden muscular action of the neck would occasion death, unless it caused at the same time an injury to the spinal marrow.

By Lord Chief Justice Tindal.—If such an injury had occurred to the deceased, I must have detected it during my examination and dissection of the neck of the deceased.

By Mr. Price.—All sorts of accidents producing injury to a vital part would necessarily produce death. If the part of the spine which I did not examine had received an injury, it might have caused sudden death. I examined the body of the deceased on the 29th of January, and from the appearance of the cut incisions I should say that the mutilation must have taken place immediately after death, both from the bloodless state of the body itself and other circumstances. The stomach was removed from the body, and looked into. There was no injury to the

coats. It contained undigested food, and I think it had a spirituous smell, but I did not observe what description of spirit. My examination of the stomach was very cursory, and merely with a view to ascertain whether any injury existed in that part which could have caused death. The deceased was about five feet six inches and a half high. She was, as far as outward appearances went, a well-formed woman, stout and strong, and, as far as I could judge, in perfect health at the time of her death.

Re-examined by Mr. Bodkin.—I am quite certain that the injury to the eye was inflicted during life. There was a puffiness and thickening around the eye which could not have taken place after death, independently of the discolouration. The appearance in the orbit of the eye would have been produced by a violent blow. Looking at the whole appearance of the body, and other members of the deceased, I find that there is in the first instance a severe blow on the eye, and looking at that injury, and at the whole group of facts and appearances, I should say that they were sufficient to cause death.

Mr. Bodkin.—In your opinion was the blow at the back of the head the consequence of the blow upon the eye?

Witness.—Certainly.

Dr. James Hunter Lane, examined by Mr. Clarkson.—I am a physician and lecturer on chemistry. I examined the stomach of the deceased, in company with Mr. Guy, a medical student. On examination, I found a quantity of meat, which I supposed to be pork or beef, together with potatoes and pastry, and the whole of the fluid had a spirituous smell. The stomach was healthy, and exhibited a slight redness, which usually denotes a good digestion. With regard to the spirituous smell, I came to the conclusion that it was neither whiskey nor rum, and that it was gin, to the best of my belief. I satisfied myself of that by a chemical test. The quantity of spirits, I should say, was not sufficient to cause intoxication. The progress of digestion was about half completed. I also came to the conclusion, from the absence of all morbid appearances, that the deceased could not have died from taking poison, and I should say that her death was sudden, from the fact of the food being undigested in the stomach, and that no disease appeared there.

By Lord Chief Justice Tindal.—There was no appearance of tea in the stomach.

Mr. Guy proved that he took the stomach from Mr. Girdwood, and carried it just as he received it to Dr. Lane.

Dr. Lane, cross-examined by Mr. Price.—A quantity of tea taken into the stomach would have covered the smell of gin, but not of whiskey or rum. The presumption is, that no portion of the contents of the stomach had been drawn off by evacuation. I examined the contents ten days after the 24th of December. A sufficient interval had elapsed to allow a portion of the odour to escape, but not wholly so.

MEETING OF THE PUPILS OF GUY'S HOSPITAL.

A VERY numerous meeting of the pupils was held, by permission, in the Anatomical Theatre, on Monday, April 10, which was attended by nearly all the medical and surgical officers of the hospital, and the lecturers. The large theatre was crowded to excess.

On the motion of Mr. Aspland, seconded by Mr. Tamplin, Mr. Oldham was called to the chair. After this gentleman, in a very eloquent speech, had opened the business of the meeting, Mr. Tweedie read the report of the Committee; after which the following resolutions were proposed and seconded:—

1st Resolution—proposed by Mr. Ridge, seconded by Mr. Hemming:—

“That we have witnessed the late prosecution with feelings of personal interest, being fully aware of the unworthy attempt which has been made to injure the general character of our school; and we offer to our fellow pupils, against whom the indictment was preferred, the fullest assurance of our friendship, esteem, and regard.”—Carried amidst loud cheering.

2d Resolution—proposed by Mr. Gaselee, seconded by Mr. Nankeville:—

“That the pupils of Guy's and their friends do raise a subscription, to assist in defraying the expenses which the late prosecution has imposed on the defendants.”—Carried unanimously.

3d Resolution—proposed by Mr. Lever, seconded by Mr. Morrish:—

“That the Committee, with power to add to their number, be requested to continue to act as heretofore, and to take the necessary steps for collecting and appropriating the subscriptions.”—Carried unanimously.

4th Resolution—proposed by Mr. Carrington, seconded by Mr. Aspland:—

“That the kind interest which the

Treasurer has manifested in the late proceedings, has evinced another proof of the anxiety which he ever feels for the character and prosperity of the pupils of this school, and that our best thanks are due to him accordingly."—Carried by acclamation.

5th Resolution—proposed by Mr. Godfrey, seconded by Mr. Brereton:—

"That we feel but little regret in learning that a resolution of the Governors of St. Thomas's has unjustly deprived us of our long-established privilege to attend the surgical practice of that hospital, for we have every confidence in the ability and kindness of our own teachers, and are perfectly satisfied with the ample opportunity for study to be found at Guy's Hospital."—Carried unanimously.

6th Resolution—proposed by Mr. Tweedie, seconded by Mr. Cooke:—

"That the pupils of Guy's Hospital feel it due to their legal adviser, Mr. Piele, to declare their deep sense of the exertions and ability exercised by him in the defence of their friends; and they thank him most sincerely for his liberal contribution of fifty guineas towards the subscription which has been instituted to assist in defraying the expenses; and that the Committee do convey to him the foregoing resolution, as a testimony of the feelings of the school."—Carried amidst loud cheering.

7th Resolution—proposed by Mr. Mosgrove, seconded by Mr. Tomlinson:—

"That the thanks of the pupils be given to the Committee, for the manner in which they have performed their duties."—Carried unanimously.

H. OLDHAM, Chairman.

8th. On the motion of Mr. Chapman, seconded by Mr. Hopgood, thanks were accorded to Mr. Oldham for the able manner in which he had presided; after which the meeting was dissolved.

In connexion with the fifth resolution, the following document was read from the chair:—

TESTIMONIAL TO GUY'S HOSPITAL STUDENTS.

WE, the undersigned medical officers and teachers in the school of Guy's Hospital, hereby assure the gentlemen composing the classes, of our sense of the great attention and uniform propriety of conduct evinced by them on all occasions; and ex-

press our unqualified opinion, notwithstanding the late untoward circumstance, that nothing has occurred to deprive them of our confidence and regard.

Henry James Cholmeley, M.D.; Wm. Back, M.D.; Richard Bright, M.D.; Thomas Addison, M.D.—Physicians to the Hospital.

Samuel Ashwell, M.D., Obstetric Physician and Lecturer.

Astley Paston Cooper, Consulting Surgeon.

C. Aston Key; John Morgan; Bransby B. Cooper; T. Callaway.—Surgeons to the Hospital.

Thomas Hodgkin, M.D., Lecturer on Morbid Anatomy.

Thomas Bell, Surgeon-Dentist to the Hospital, and Lecturer on Comparative Anatomy.

Edward Cock, Lecturer on Anatomy.

Arthur Aikin, Lecturer on Chemistry.

Alfred S. Taylor, Lecturer on Chemistry and Medical Jurisprudence.

Thomas Wilkinson King, Demonstrator of Morbid Anatomy.

Charles Johnson, Lecturer on Botany.

James Stocker, Apothecary to the Hospital.

Golding Bird, Lecturer on Experimental Philosophy and Medical Botany.

John Hilton, Demonstrator of Anatomy.

G. H. Barlow, M.D., Lecturer on Practical Pharmacy.

Jallard J. Edinborough, Assistant-Surgeon to the Ophthalmic Infirmary.

John C. W. Lever, Demonstrator of Materia Medica, and Clinical Obstetric Assistant.

Alexander Tweedie, Clinical Obstetric Assistant.

As Chaplain of Guy's Hospital, I have read lectures on Moral Philosophy to as many of the students of the Medical School as had leisure and inclination to attend, and have uniformly received from them the most respectful attention. I have also had opportunities of observing the deportment of the students generally, which has always seemed to me most becoming and orderly.

F. MAURICE.

As Steward of Guy's Hospital, I have the best means of knowing the students, and from that have an unqualified feeling of regard to them for their orderly, gentlemanlike conduct, together with their strict observance of all the regulations of the establishment.

JAMES BOSWELL.

Guy's Hospital,
April 10, 1837.

TABLE II. — COLEOPTERA, OR TH

Family and Genus.	Larval Species.	Authority.	Country.	Reference.
TENEBRIONIDÆ. <i>Tenebrio.</i> 9.	Molitor, Linn. Fifty examples.	Acrel.	Sweden.	Nova Acta U vol. vi. p. 1
BLAPIDÆ. <i>Blaps.</i> Fab. perfect insect.	Mortisaga, Fab. 1206 larvæ.	Dr. Pickells. Dr. Thomson. Dr. O'Brien.	Ireland.	Trans. Col. Ph Ireland, vol. iv. p. 1
Case 2.	Mortisaga, Fab.	Mr. Patterson.	....	Trans. Ent. S London.
Case 3.	Mortisaga, Fab.	Dr. Bateman.	England (?)	Edin. Med. J vol. vii.
MORDELLIDÆ. <i>Mordella,</i> Fab.	Species unknown.	Rosen.	Sweden.	Nova Acta U vol. vi. p. 1
CANTHARIDÆ. <i>Meloe,</i> Fab. 1. Perfect Insect.	Proscarabæus, Fab.	Germar.	Silesia.	Germar Mag. v p. 403.
Case 2.	Species unknown.	Anonymous.	....	Scherf's Medic lezey, 2 Band,]
Case 3.	Maialis, Fab.	Otto.	England.	....
CURCULIONIDÆ. <i>Balaninus.</i> 1.	Nucum, Fab.	Dr. Henry.	England.	Edin. Med. J vol. vii.
Case 2	Nucum, Fab.	Astley Cooper.	Middlesex.	....
Case 3.	Larvæ unknown.	Dr. Henry. J. Phillips, Esq.	Lancashire.	Edin. Med. J vol. vii. p. 1
DERMAPTERA.				
DERMAPTERA. <i>Forficula.</i> 1.	Auricularia.	W. Griffin.	Ireland.	Medical Gazet xix. p. 48
2.	Auricularia, many examples.	W. Griffin.	Ireland.	Ditto, vol. xix

E PRODUCING CANTHARIACIS.

or not.	Local Affection.	Sex.	Age.	Result.
ta Upsal, t, fig. 2.	Stomach.	Female.	30 years.	....
, fig. 1, væ. , fig. 1, pa. , fig. 9, go.	Stomach.	Mary Riordan.	28 years.	Recovery.
..
vii. fig.	Stomach.	....	....	....
..	Stomach.	....	....	....
..	....	Susanna Schirm.	38 years.	Recovery.
..	Stomach (?)	....	Infant.	....
..	Intestines (?)	....	....	....
osel, vol. ab. 67. tto.	Chest.	....	....	....
..	Alimentary canal.	Male.	Unknown.	Recovered.
..	Urinary passages.	F—, Esq.	62 years.	Partial Reco- very.

MAPTERA.

...	Alimentary canal.	Female.	Adult.	....
...	Throat.	Male.	12 years.	Recovery.

IODINE IN MERCURIAL SALIVATION.

BY M. KLOSE.

SALIVATION had been produced in two children, during their convalescence, by mercury which had been administered on account of inflammation of the brain. To remedy the salivation, iodine was employed; and, after its first two doses, the peculiar smell of the mouth disappeared, the flow of saliva diminished, the pains became alleviated, and the aspect of the ulcers in the mouth was improved. The children were five and seven years of age. The iodine was discontinued before any of its peculiar symptoms were produced. M. Klose thinks iodine of value in such cases; and, as the remedies with which we are at present acquainted appear to possess but little influence over mercurial salivation, when it is once established, a new remedy which promises fairly is worthy of all acceptance.—*Medicinische Zeitung*, No. 34, 1836; and *Brit. and For. Med. Rev.* No. 6.

ON THE DIURETIC OPERATION OF THE FLOWERS OF STATICE ARMERIA.

BY DR. EBERS.

DR. EBERS speaks of the flowers of the Statice armeria, popularly termed “Pissblume” in Germany, as an active diuretic. From two drachms to an ounce of the flowers, freshly gathered and quickly dried, should be gently boiled, and the patient allowed to drink of the decoction *ad libitum*. Some aromatic, as anise or cinnamon, is added to the decoction. The remedy appears to cause the excretion of urine in a direct manner. Dr. Ebers does not pretend to say the kind of dropsy to which it is appropriate, nor the mode of its operation.—*Wochenschrift für die gesammte Heilkunde*, No. 40, 1836; and *Brit. and For. Med. Rev.* No. 6.

APOTHECARIES’ HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

April 13, 1837.

Frederick Pearce, of Camelford, Cornwall.
Charles Adolphus Hawkesworth, of Barton, Staffordshire.
Thomas Bennett Humphreys, of London.
John Wakeham Sparrow, of Plymouth.
James Harvey, of Penzance.
Charles Thomas Hamilton, of London.

April 20, 1837.

Robert Merry, of Hemel Hempsted.
Thomas Spencer Heward, of Clare, Suffolk.
James Taylor, of York.
C. M. S. Babington, of London.
Thomas Perrin Tarrant, of London.

Frederick Palmer, of Burgh Castle, Suffolk.
Thomas Henry Payne, of Frome.
Charles Studd, of Ipswich.
Thomas Shaw, of Kirkham, Lancashire.
Andrew Allison, of Kelham, Yorkshire.
Stephen Staley, of Stroudwater.
Wm. Woods Johnston.
John Barker, of Coleshill, Warwickshire.
Augustus Cooper, of London.
Phineas Samuel Ellis, of Crowle, Lincolnshire.
Charles John Pinching, of Gravesend.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Apr. 18, 1837.

Abscess	8	Heart, diseased	3
Age and Debility	64	Hooping Cough	11
Apoplexy	8	Inflammation	25
Asthma	25	Bowels & Stomach	4
Cancer	3	Brain	4
Childbirth	4	Lungs and Pleura	16
Consumption	64	Influenza	7
Convulsions	41	Insanity	7
Croup	2	Liver, diseased	1
Dentition or Teething	8	Measles	7
Dropsy	13	Mortification	6
Dropsy in the Brain	12	Paralysis	2
Dropsy on the Chest	1	Sore Throat and	
Erysipelas	5	Quinsey	1
Fever	6	Spasms	3
Fever, Typhus	2	Unknown Causes	15
Gout	1		
Hæmorrhage	1	Casualties	6

Decrease of Burials, as compared with }
the preceding week } 140

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>April.</i>	THERMOMETER.		BAROMETER.	
Thursday . 6	from 25 to 47		29·80 to 29·88	
Friday . . 7	23	40	29·97	30·17
Saturday . 8	27	45	30·21	30·25
Sunday . . 9	22	43	30·21	30·16
Monday . . 10	19	43	30·05	29·88
Tuesday . . 11	17	44	29·57	29·60
Wednesday 12	16	42	29·60	29·67

Winds, N.E.
Except the 8th and 10th, and morning of the 11th, generally cloudy; hail on the afternoon of the 7th, and snow on the 9th and three following days.

Thursday . 13	from 29 to 41		29·76 to 29·83	
Friday . . 14	28	49	29·82	29·77
Saturday . 15	20	50	29·65	29·51
Sunday . . 16	27	39	29·39	29·42
Monday . . 17	28	49	29·55	29·74
Tuesday . 18	31	45	29·77	29·87
Wednesday 19	36	55	29·88	29·86

Prevailing winds, N. and N.W.
Except the 15th, generally cloudy; a little rain on the 13th and 18th; snow on the mornings of the 16th and 17th.
Rain fallen, ·0125 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

We shall be glad to receive the contributions alluded to from Glasgow.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, APRIL 29, 1837.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE XI.

FEVER.—*Application of cold to the Head—particular Apparatus for this—Warm applications recommended—Use of Mercury in Fever—Effects of Intemperance—Illustrations afforded by particular cases—Necessity of active attention to Cerebral symptoms—Occasional absence of morbid appearance after death—Contraction and dilatation of the Pupils—Coup de Soleil.*

LET us now, gentlemen, return to the subject of Fever.

I have already laid before you my views as to the use of general and local bleeding in fever, and pointed out the circumstances under which they might be employed. In treating of general bleeding, I stated that we used it at the commencement of fever, with a view of checking the disease altogether, or of rendering it milder and less dangerous, by moderating excessive inflammatory action, and controlling cerebral excitement. I have also spoken of the use of leeches and blisters, and it only remains for me to say a few words respecting the application of cold to the head as a means of moderating or removing symptoms of cerebral excitement. In Dr. Southwood Smith's Treatise on Fever, you will find many cases and arguments to shew that where headache and delirium are present, and where the lancet is inadmissible, if you place the patient in a warm-bath, and direct a forcible small

491.—xx.

stream of very cold water on his head, he soon becomes more calm, experiences great relief of his headache, and is frequently brought back to his bed quite free from cerebral symptoms. The burning heat of the skin is quickly replaced by a sensation of coolness, or even cold, the flushing of the face disappears, the delirium vanishes, and a favourable crisis is often produced. Indeed the effects of this remedy are extremely remarkable, and I have no doubt that many of the cases in which I have employed tartar emetic with such signal advantage would derive equal benefit from this mode of treatment. The cold affusion, as recommended by Dr. Smith, and practised at the Charité Krankenhaus, at Berlin, is most certainly an excellent and energetic remedy, and I regret that we have not an apparatus in this hospital for applying it; but I fear its utility must be, at least for some time, limited to public institutions, and that it cannot be employed to any extent in private practice. There is a good deal of prejudice against applications of the kind in this country. At the time that cold affusions were used in the treatment of scarlatina, much mischief was done by their indiscriminate employment, and this added to the general feeling of dislike towards them. At all events, cold affusion is a remedy which requires an apparatus seldom at the command of the physician in private families, and, indeed, I think that in most cases we may do very well without it.

You are all aware that in cases of determination to the head, the common practice is to shave the scalp, and apply cold lotions. In my published lectures I have endeavoured to point out the imperfect, and even hurtful, mode in which this remedy is ordinarily applied, and to shew that it is calculated rather to increase than diminish the heat of the integuments. Cold lotions act as a powerful

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refrigerant, if constantly repeated, so as to keep the part below the standard temperature of the body. But this is seldom or never done. The nurse applies the lotion, and then, perhaps, drops asleep, or occupies herself with some other business, until at last she is attracted by the vapour arising from the patient's head, and then she renews the application. I need not say that in this way all the good effects of cold as a refrigerant are entirely lost, and that a degree of reaction is produced which must altogether mar and nullify its application. I have, therefore, given up, except in very few cases, the practice of applying cold lotions, and give a preference to the use of warm fomentations of equal parts of vinegar and hot water, applied to the temples and shaven scalp, and frequently repeated. I am quite sure we employ warm applications for the relief of headache and cerebral symptoms much less frequently than we ought. You are aware that surgeons are in the habit of treating some local inflammations with warm, and others with cold applications, and that the rules laid down for distinguishing the cases in which cold, and those in which warm fomentations should be used, are deficient in precision, and that most commonly the practitioner has to refer to his own individual experience for the guidance and determination of his choice. So it is also with respect to the use of fomentations to relieve the pain and congestion of internal parts. Among these I include determination to the head in fever, accompanied by intense headache, restlessness, and delirium. In some cases of this description cold applications will give ease, in others most relief is obtained by fomenting the head with water as hot as it can be borne.

The idea of employing hot fomentations in cases of this description was first communicated to me in 1833, by Mr. Swift, who became accidentally aware of their value while washing his face one day in very warm water, at a moment when labouring under severe headache. The sudden relief obtained by the application of hot water induced him to try it extensively in the headache of influenza, and with the most satisfactory results. You are aware that in the influenza which appeared in this country in 1833, one of the most remarkable symptoms was intense headache. This was accompanied with great debility, and was not amenable to the ordinary modes of depletion. Now, Mr. Swift found that by applying water as hot as it could be borne to the forehead, temples, and back of the head, great and almost instantaneous relief was obtained, and that in this way he was able to keep a most unpleasant

symptom in check, while he was taking measures to remove the disease. I afterwards heard from my friend, Dr. Oppenheim, of Hamburg, that he had also discovered that this was the best means of affording relief under the same circumstances. This led me to think of applying hot fomentations to the head in other diseases, and although I cannot give you any particular rules for determining the cases in which you should employ them, I can say that you will generally find warm vinegar and water the best and most efficacious application in the ordinary head-ache of fever.

I shall close this lecture with a few observations on the use of mercury in fever, and this will include all I have to say at present on the remedies most generally employed in the treatment of typhus. Are we to have recourse to mercury or not in typhus? I do not allude here to its use as an aperient, but when called to treat a case of fever are you to proceed at once to bring the patient's system under the influence of mercury? Are you, in addition to the other measures usually adopted in the treatment of fever, to go on with the administration of mercury until you affect the mouth and bring on salivation? This was the practice in my time, and great confidence was placed in it by the majority of practitioners. It has been also very extensively recommended by army and navy surgeons, in the treatment of tropical fevers; which all partake, more or less, of the typhoid character. I must confess that I am not at all inclined to adopt this practice, and that I have seen abundant reasons why I should neither employ nor recommend it. In the first place we have observed in our wards that patients with other diseases have frequently caught fever from exposure to infection, at a time when they were fully under the influence of mercury. In the next place we have observed that persons who were thus attacked with fever while in a state of salivation did not escape better than others, and that in them the disease ran its full course, aggravated rather than diminished in its danger by the pre-existing mercurialization. These facts I have frequently seen verified in hospital and private practice. You perceive, then, that mercurialization neither protects a man from the contagion of typhus, nor does it produce a favourable modification in its type or progress. Again, I have repeatedly witnessed the daily and continued exhibition of mercury in fever, and I cannot recollect a single case in which it appeared to check the disease, moderate its symptoms, or bring about a favourable crisis. I am aware that in entering

my protest against this practice I dissent from a very considerable body of my brethren, who, from the beginning to the end of fever, never cease in their attempts to bring the patient's system under the influence of mercury. I am convinced that in the cases in which recovery is stated to have followed this practice, the *post hoc* has been mistaken for the *propter hoc*. Besides, fever is one of those affections in which you find it extremely difficult, and often impossible, to bring the system fully under the influence of mercury. There are certain states of the system which prevent altogether the full operation of mercury, and bad typhus is one of these states. Where fever has laid deep hold of the constitution, you cannot affect it with mercury. Besides, when a patient recovers who has been mercurialized during the course of fever, he does not recover because his system came under the influence of mercury, but he comes under the influence of mercury because he recovers from the fever. Add to this, that mercury is a remedy which requires a peculiar regimen, and that it is very apt to engross the practitioner's attention, and prevent him from the exhibition of remedies which are more directly indicated, and in reality more useful. These considerations and others have convinced me that the exhibition of mercury in fever, with the view of touching the gums, is injudicious and unnecessary. There are, however, cases in which you will be compelled to have recourse to mercury, whatever the stage or type of the fever may be. When inflammation of some internal organ—as, for instance, of the lungs—arises during the progress of fever, you must employ mercury at once; and cases of pneumonia which would have proved fatal, have, on numberless occasions, been treated successfully by mercurialization. But under ordinary circumstances, and were there no indication similar to that which I have just pointed out, I do not see any advantage to be derived from the use of mercury. I am not, therefore, in the habit of employing mercury in fever. Sometimes I use calomel as an aperient, and I frequently prescribe small doses of hydrargyrum cum cretâ, with the view of gently stimulating the liver and preventing the tendency to congestion of the intestinal canal: but farther than this I am not in the habit of going; and I never, except in cases of pneumonia, or inflammation of some internal organ, attempt to bring the patient's system under the influence of mercury during the course of typhus.

Permit me next to direct your attention, gentlemen, to the case of the patient

Murphy, who died last week. This case excited a good deal of our attention at the time, and I wish to make some further observations on it while it remains fresh in your minds.

It was one of those mixed cases of typhus in which, as the fever advances, we observe the usual phenomena of determination to the head, accompanied by a train of symptoms which bear a close analogy to those of delirium tremens. Among the pauper population which we have to treat, you will frequently meet with cases of this description. We witness many examples of it here, but not so many as are to be seen in other hospitals. It is a melancholy but well-known fact, that a great proportion of the diseases which come under our notice, in the acute as well as in the chronic form, are more or less complicated with intemperance. This you should never forget. In persons of the lower class, who are addicted to the daily use of spirituous liquors, you will find disease assuming a thousand unfavourable shapes and complications. You will find their fevers intermixed with various symptoms of an anomalous or dangerous character, and their chronic affections embarrassed by organic and visceral disease. You will be repeatedly struck with the strange and protean character which disease assumes under the influence of an habitual intemperance; and you will often, in the course of your practice, have to endure the annoyance and disappointment of seeing your patient carried off by some new and unexpected malady, after you have succeeded, by infinite toil, ingenuity, and patience, in removing every trace of his primary affection.

The case of Murphy was one of those which have been neglected in the beginning, where the vantage ground has been lost, and the chances of success are diminished almost to nothing. You have observed that all the fatal cases of fever which we have had in hospital were cases admitted at an advanced period of fever, and in which the head had been neglected. You have also observed how exceedingly difficult it must be to treat cases of this description. The patient is admitted at an advanced stage of fever, and at a period when he can give no account of his present or past symptoms, or the mode of treatment to which he has been submitted. He comes in with delirium, or coma and subsultus tendinum; his symptoms are certainly cerebral, and he exhibits, perhaps, a blistered scalp; but we can have no means of ascertaining whether he has had headache, heat of scalp, throbbing of the carotid and temporal arteries, or vertigo,

—we cannot, in fact, decide with precision as to the exact state of the brain, and our practice must be embarrassed by more or less doubt and obscurity. I have already impressed upon your attention the urgent necessity of watching the head in fever, and I think I cannot too often reiterate the advice which I have given you, to endeavour to check cerebral symptoms before they amount to any degree of absolute danger. The fate of those who have died here will convince you that when cerebral disease has once arrived at its *acmé*, the most energetic measures will often fail in arresting it. It is a matter of vital importance, then, to prevent this lamentable state of things, and, without waiting until the symptoms of cerebral disease manifest themselves, to anticipate it in its very origin, and thus be enabled to control with certainty symptoms which assume such a fearful aspect in cases where cerebral disease has been allowed to go on unregarded. This is the practical lesson which I wish you to draw from the four fatal cases which have occurred in this hospital within the last month.

There are some points in the case of Murphy to which I wish to recal your attention, as I am anxious that you should make them the subject of reflection. For some days before his death he had been delirious and unmanageable, with total loss of sleep, and a contracted state of the pupil. The antiphlogistic and derivative treatment had been employed without effect; and seeing that his symptoms were advancing, and his sleeplessness undiminished, I ventured to give him an injection, consisting of two grains of tartar emetic with ten drops of laudanum. I am cautious in the administration of opium in the advanced stage of fever, where there is evidence of determination to the head; and it was on this account that I ordered it to be combined with tartar emetic, giving also directions that the effect of each dose should be carefully watched. He got three enemata during the course of the night, that is, thirty drops of laudanum altogether. He dozed after the last injection, and appeared more tranquil; but at our morning visit we found him in a state of coma, with rapid sinking of the powers of life, and death took place in the course of a few hours afterwards. I must confess the issue of this case gave me some degree of uneasiness at the time, as I thought it might have been precipitated by the administration of the opium. I could not say but that even this small quantity of opium might have greatly aggravated the cerebral symptoms, and accelerated the fatal event. Dissection, however, revealed the true

cause of death. On opening the brain we found extensive arachnoid inflammation, some effusion on the surface of the brain, and an intensely congested state of its vessels. The patient, although dissipated in his habits, and greatly reduced by fever, had been a young man of rather robust constitution previous to his illness; he had been neglected in the beginning of his fever, which, from the phenomena observed after death, must have been characterized by early and decided determination to the brain, producing delirium, watchfulness, coma, and a contracted state of the pupil, which all our antiphlogistic measures were inadequate to remove or control. We did every thing in our power: we leached, blistered, and gave tartar emetic, but without effect; the case had not come under our care until symptoms of unmanageable cerebral disease had been established. This state of delirium, followed by contraction of the pupil and coma, and terminating in death, occurs in two classes of cases,—first, in hospital patients of the lower class, who have been neglected in the commencement of fever; and secondly, in persons in the better classes of life, in whom the mind is frequently subjected to over-exertion, and who, when attacked by fever, exhibit a strong tendency to the early development of cerebral symptoms of a bad and unmanageable character. One of the worst symptoms observed in such cases is extreme contraction of the pupil. I have seen the pupil in some cases contracted to the size of a pin-hole; and I think I can state, that out of all the cases of this description which I have witnessed, there were but two recoveries. I have seen persons who had exceedingly bad and alarming symptoms of cerebral derangement recover, although accompanied by great dilatation of the pupil; but I think I have seen but two cases recover in which the pupil was contracted to the small size observed in Murphy's case.

With these facts fresh in your minds, allow me to direct your attention to the case of another man who died lately in the fever ward with cerebral symptoms of an intense character. Now in this man the very same train of phenomena were present which we observed in Murphy's case. He had, you recollect, typhus of a low character, accompanied by delirium, subsultus, and the ordinary symptoms of determination to the head. I could defy any man who would compare these two cases together to point out any remarkable difference between them. The delirium, nervous excitement, and watchfulness, commenced the same way in both, and ran through the same course: both had contraction of the pupil, constant

muttering and delirium, persistent watchfulness, and subsultus tendinum; and in both the cerebral symptoms terminated in coma and death. I would defy the most accurate symptomatologist to point out any marked distinction between them. Yet how different were the phenomena observed on dissection! In the one there was extensive lesion of the membranes of the brain, effusion on its surface, and intense congestion of its vessels; in the other, there was no appreciable departure from the normal condition. These are very strange things, and well worthy of attentive consideration. But it is not in typhus alone that we meet with the occurrence of analogous symptoms,—in cases which exhibit a very different state of the brain after death. We are encountered with the same puzzling contrarieties in many cases of scarlatina. Cases come under our notice in which the patients appear to die entirely from the violence of the cerebral symptoms, and yet, on examination, we find very dissimilar states of the brain. In some there is palpable and fatal lesion, in others there are some dubious marks of congestion, quite insufficient to account for the symptoms; or the brain is found to be perfectly sound and normal.

It would appear that in scarlatina and fever, the poison of the disease exercises a deleterious influence on the brain, independent of inflammation, but capable of producing an analogous train of symptoms. Hence it is in many instances extremely difficult to distinguish the cerebral symptoms produced by the mephitic influence of fever on the brain, from those which depend on true inflammation. The one gives rise to delirium and fatal coma as well as the other; and in the advanced stage of fever, when the manifestations of nervous energy are feeble and imperfect, and when the circulating and respiratory organs act with diminished power, the distinction between mere irritation and actual inflammation becomes a matter of great difficulty.

In alluding, on a former occasion, to the occurrence of analogous symptoms under opposite conditions of the brain, I noticed that headache, tinnitus aurium, and giddiness, have been observed in cases where there was distinct evidence of determination to the head, as well as where there was every reason to believe that the supply of blood to the brain was greatly diminished. You will find a very curious illustration of this fact in the last number of Guy's Hospital Reports, which contains a very interesting paper from Sir Astley Cooper, on the effects produced by tying

the carotid and vertebral arteries. Among other results, it appears that when the supply of arterial blood destined for the brain is diminished, the animal experimented on becomes stupid, is to a certain extent incapable of voluntary motion, and exhibits a very remarkable dilatation of the pupils. This is an extremely curious fact. You are all aware that dilatation of the pupils has been long regarded as one of the most characteristic signs of extravasation and increased pressure on the brain; and yet it appears the very same condition of the pupil is observed when you cut off the supply of arterial blood to the brain. We are, I fear, as yet very much in the dark as to the changes which occur in the brain under opposite states of its vessels; and I think we have equally imperfect and confused notions of the changes which occur in that organ as the result of fever. We perceive these changes frequently accompanied by a train of symptoms, which, if not identical, have so close a resemblance, that it is often a difficult matter to distinguish between them.

Dilatation of the pupils is usually regarded as a sign of increased pressure on the brain; and when hydrocephalic symptoms are present, it is generally looked upon as pathognomonic of effusion. Yet from the experiment just alluded to, we find that dilatation of the pupil is also the result of a state of things in which we cannot suppose the existence of any thing like increased pressure on the brain. When I speak of increased or diminished pressure on the brain, I am not prepared to maintain that such is actually the case, or that when a man becomes giddy and faints after bleeding, that the actual quantity of blood circulating in the brain is diminished, and consequently the amount of pressure; but when a man gets headache, vertigo, or syncope, from loss of blood, it must depend upon causes different from those which are connected with congestion of the brain, or extravasation on its surface, or into its substance. What I wish to impress upon your minds is, that dilatation of the pupils may be connected with very opposite states of the cerebral circulation; and that in fever it cannot be regarded as a sign of any value in determining the existence of congestion or inflammation of the brain.

It may not be amiss to mention briefly on the present occasion the details of a very remarkable communication, by Surgeon Russel, of the 73d regiment, formerly a pupil in this hospital. This communication was read by Dr. Wilson, at one of the *soirées* of the College of Physicians in London, and afterwards pub-

lished in the MEDICAL GAZETTE. Mr. Russel observes,—

“I was led, by the following circumstance, to reflect on the nature of ‘coup de soleil;’ which, as well as I can recollect, is treated of by all authors, and is generally considered to be nothing more or less than true apoplexy, produced by the direct influence of the sun’s rays; that its pathology is the same, and its mode of treatment similar—that is, that all the efforts of the medical attendant should be directed to the head, as the chief, nay, almost the only, seat of the disease: and here it strikes me a fallacy exists, leading to erroneous principles of practice. In May, 1834, while I was in medical charge of the 68th regiment (a fine corps, composed of men in robust health), then recently arrived at Madras, the funeral of a general officer took place; to which, unfortunately, the men were marched out at an early hour in the afternoon, buttoned up in red coats and military stocks,—at a season, too, when the hot land winds had just set in, rendering the atmosphere dry and suffocating even under shelter of a roof, and when the sun’s rays were excessively powerful. The consequence was, that after proceeding two or three miles, several men fell down senseless. As many as eight or nine were brought into hospital that evening, and many more on the following day; three died—one on the spot, and two within a few hours. The symptoms observed (and they were alike in these three cases) were, first, excessive thirst, and a sense of faintness; then difficulty of breathing, stertor, coma, lividity of the face, and in one, whom I examined, contraction of the pupil. The remainder of the cases in which the attack was slighter, and the powers of re-action perhaps greater, or at all events sufficiently great, rallied; and the attack in them ran on into either an ephemeral or more continued form of fever. The symptoms of these three cases did not more closely resemble each other than did the post-mortem appearances. The brain was, in all, healthy; no congestion or accumulation of blood was observable; a very small quantity of serum was effused under the base of one, *but in all three the lungs were congested even to blackness through their entire extent*; and so densely loaded were they, that complete obstruction must have taken place. There was also an accumulation of blood in the right side of the heart, and the great vessels approaching it.”

ON THE
COMBINATION OF MOTOR AND
SENSITIVE NERVOUS
ACTIVITY;

OR, ON THE
PRODUCTION OF SENSATIONS BY MOTIONS.

BY PROFESSOR STROMEYER,
Hanover.

Translated from the “Göttingische Gelehrte
Anzeigen,”

(With Additions, communicated by the Author.)

BY W. J. LITTLE, M. D.

[Continued from page 110.]

*Vision—Voluntary power over the Iris
—Explanation—Susceptibility of the
Retina to impressions increased in
the ratio of the number and irritabi-
lity of Ocular Muscles in action—
Squinting — Club-foot — Cause of
scrofulous intolerance of light—Re-
action of the Portio Dura upon the
Optic Nerve—Audition—Utility of
the Muscles of the Ear—Connexion
of the Portio Dura with the Auditory
Nerve—Taste—Effects of Galvanism
—Functions of the different Nerves
distributed to the Tongue—Olfaction
—Connexion with the Respiratory
Nerves.*

HITHERTO I have only briefly propounded my theory *that certain motions or contractions produce certain sensations, through the intermedium of the brain and spinal marrow*—the complement to the reflexion of Marshall Hall. I have related the circumstances which led first to this investigation, and have shown how we may remove the difficulty of understanding the existence of apparently centripetal functions in the motor, and centrifugal in the sensitive nerves*.

* Without going into the consideration of the accuracy of Stromeier’s views, the confirmation or refutation of which will be best effected by observation, it may be remarked, that although apparently opposed to our present knowledge of the manner in which the nervous principle is communicated along motor and sensitive nerves, whether that be by currents, vibration, &c., the phenomena of the production of sensations by the contraction of muscular fibre, if they really take place, may be explained without violating any of the physiology of the nervous system; nay, in accordance with it, for as the phenomena of health and disease prove to us the accuracy of reflex motions after irritation, with or without

As the nerves of the senses produce an antithesis to the motor nerves, similar to that evinced by the ordinary sensitive nerves, and the augmentation of their excitability being accompanied by peculiar phenomena, it naturally followed that I should at once direct my attention to them, in order to search for proofs of my theory.

Vision.—Modern physiologists were almost unanimously of opinion that the movements of the iris depended upon the irritability of the retina, and sight exercises no direct influence upon that organ. If the iris act, when touched by the cataract needle, even after dilatation by belladonna, it only participates with all motor organs in the property of contracting when exposed to mechanical stimulus. Thus the pupil has hitherto been considered as the barometer of the excitability of the retina, and of its reaction upon the stimulus of light.

The celebrated Professor J. Mueller* has lately attempted to shake this opinion, by endeavouring to prove that the will can act upon the pupil independently of the co-operation of the retina. Thus he has observed, that by shutting one eye and turning the other as much towards the nose as possible, the pupil is lessened; and that it is dilated, on

the contrary, if the eye be directed to the opposite side—outwards. The diminution of the pupil is greatest when the axes of both eyes are made to converge as strongly as possible. If one eye be directed outwards, and the other inwards, no perceptible alteration of the pupils takes place. The pupil is narrowed when we turn the eye upwards and inwards—that is, when we set the inferior oblique muscle into action*. The more parallel the globes are, the wider are the pupils.

Professor Mueller explains the diminishing of the pupil during the motions of the eye-ball, effected by the musculus rectus internus and obliquus inferior, through the circumstance of those muscles being supplied by the oculo-motorius nerve, which regulates also the motions of the pupil, whilst the external rectus muscle, which draws the eye outwards, is supplied by the nervus abducens. So that (according to Mueller) at the same time that the will acts upon the muscles which receive filaments from the oculo-motorius, its influence is extended to the iris, which is not the case during motions of the rectus externus muscle.

The facts observed by Mueller are perfectly correct, although his explanation is erroneous, which is easily shewn. Thus the levator palpebræ superioris is likewise supplied by the oculo-motorius; nevertheless the pupil becomes very large when the eye is opened very widely voluntarily. The narrowing of the pupil during contraction of the rectus internus and obliquus inferior muscles must therefore proceed from some other cause than the influence of the will upon the oculo-motorius nerve; for we cannot assume one law for one branch of a nerve, and not apply the same law to all the branches. Again, it is found that light has so much influence upon the narrowing of the pupil in Mueller's experiments, that it can scarcely be observed during twilight; whereas the dilatation of the pupil during abduction is at that time very considerable. Much depends, also, whether the eyes be fixed upon an object or not. In the former case the pupil is constantly narrower. None of these varia-

sensation, of certain sentient nerves, and the consequently intimate connexion of the origin of the sensitive and motor filaments in the central organs, we may conceive that as centripetal currents in the sensitive filaments produce, under certain circumstances, such an alteration or affection of that part of the central organ where they are connected with the motor filaments, as to induce centrifugal currents or a vibration in those motor filaments,—or, in other words, induce contraction of certain muscular fibres,—in like manner, it is not impossible that whilst what we mean by centrifugal currents is going on in the motor filaments, such an alteration or affection of that part, the connecting link, in the central organs where the motor and sensitive filaments meet, occurs, as to cause either increased susceptibility to impression, or sensibility of that part, amounting even to the feeling of pain by the individual. It is not necessary that propagation of any thing or kind, tension or vibration, take place along the sensitive nerve to the spot in which the pain is felt—we know that that cannot be: the individual imagines that he feels pain in a certain part (say the knee, for example, according to Stromeyer's explanation of the knee-pain in coxalgia), to which the peripheral extremity of the nerve is distributed, precisely—as when we strike the ulnar nerve at the elbow, pain is felt along the whole course of the limb, below the seat of injury supplied by that nerve; or when the nerve of a stump is irritated, the patient feels an injury to his toe, &c. This is the *rationale* of the hysteric and other pains said to exist only in the mind of the patient. The pains really exist, although not felt at the part where the cause exists, but imagined to be felt elsewhere.—W. J. L.

* Handbuch der Physiologie, p. 764.

* This voluntary power of the inferior oblique, mentioned by Professor Mueller, is in opposition to the experiment of Sir Charles Bell, where he divided the obliquus inferior and superior of the eye of an ape, and nevertheless all the accustomed motions of the eye continued.

tions could occur if the motions of the pupils were at all voluntary.

The old doctrine of the dependence of the motions of the iris upon the stimulus of light is therefore not yet shaken, and we may continue to regard the pupil as a measure of the excitability of the optic nerve, if we give a different explanation of Mueller's experiments. It is now well known that a stimulus applied to the eye-lids makes the eye intolerant of light, and causes contraction of the pupil; hence no ophthalmic surgeon introduces Pellier's cataract hooks beneath the eye-lids, but inserts them in a fold of the skin of the upper eye-lid, at the margin of the tarsus. Many surgeons believe even that to be prejudicial, and prefer that the upper eye-lid be held by an expert assistant, by pressing its cilia with the tips of the fingers against the orbital arch of the frontal bone. This well-known fact led me to perform the following experiment.

I caused both eye-lids of a pigeon to be firmly held apart with two forceps, by assistants. The bird drew its *membrana nictitans* across the eye, the pupil contracting slightly at the same time. The bird, nevertheless, made no attempts to close the eye-lids, which were still held asunder, probably because it was conscious that they were fully in the power of the forceps, and because the movements of the *membrana nictitans* sufficed its purpose. I then seized the *membrana nictitans* with Baer's hook, and drew it completely back, so that the animal could not move it: during that the pupil was not altered. But as soon as I loosened a little my grasp with the hook, so that the bird perceived that it could again somewhat employ its *membrana nictitans*, it drew it vigorously forwards, and simultaneously the pupil contracted very considerably. The animal's attempts to close the *membrana nictitans* coincided completely with the narrowing of the pupil; and when I resumed the mastery over the membrane by means of the hook, the contraction of the pupil immediately ceased. The same result was obtained in repetitions of the experiment.

Now the *membrana nictitans* is supplied by the abducent nerve; so that the question of the direct translation of volition to the iris cannot here be mooted, for the iris receives no nerve from the abducens. The irritation of the sensitive nerve of the eye-lids and

membrana nictitans, derived from the fifth pair, could not be the cause of the periodical narrowing of the pupil, or this would have taken place instantly, whereas it only occurred during the voluntary attempts of the animal. It is also known that excitement of the fifth pair does not cause the pupil to contract. Again, in the operation for cataract, the pupil does not contract unless the operator incautiously touches the iris; and even the most unsteady eye, and most intolerant of light, becomes quite quiet when the puncture has been made, and the patient is conscious that the eye is in the power of the operator. Every attempt at motion immediately ceases, and the eye follows, independent of the will, every movement of the needle. Thus, in order to remove foreign particles from the cornea, the conjunctiva of the globe may be seized with forceps. If this be done with dexterity, the eye is rendered quite quiet—is not even suffused with tears, and the pupil does not contract; this I have often observed in Graef's clinique, at Berlin. The irritation of the nerves of sensation of the eye do not, therefore, make it intolerant of light; but the attempts to move it increase the irritability of the retina.

Mueller's explanation of his own experiments is therefore incorrect, as the exerting of the *membrana nictitans*, the muscles of which receive their nervous power from the abducens, induce contraction of the pupil, exactly the same as the action of those muscles which are supplied by the oculo-motorius. The objection may be made that the pigeon, during the motion of the *membrana nictitans*, may have directed the globe inwards and upwards, through the action of some of the muscles supplied by the oculo-motorius; but had that motion taken place it must have been perceived, as the animal was not prevented from moving it through the holding of the *membrana nictitans*. The contraction of the pupil occurred only when the animal was exerting the *membrana nictitans*, and neither before nor afterwards.

Besides, it is not difficult to state the reason why, in man, the pupil contracts during motions of the eye inwards. The irritability of the muscles supplied by the oculo-motorius is evidently greater than that of those supplied by the trochlearis and abducens. As for perfect vision both eyes must be employed,

their converging motions are the most frequent and lasting; so that this increased power of the muscles which direct the eye inwards is as useful as necessary. Abduction of the eye is, on the contrary, seldom required; for, in order to see distinctly, we turn the head towards the object, if it lie to one side. This is immediately succeeded by a considerable converging of the axes of both eyes. I have no doubt, therefore, that the changes of the pupil during motions of the eyes will be found to vary in different men according to the nature of their daily avocations. It is not remarkable, therefore, if a literary man, like Professor Mueller, who is constantly occupied in the minutest researches, shows, by adduction of the eye, a very narrow pupil. His daily avocations require a constant converging of the eyes, by which the irritability of the *abducens* must be much diminished. There can be no doubt that in peasants, for instance, the relation of the various motions of the eyes is quite the contrary. Experiments should, therefore, be instituted in persons who have lost an eye in early youth*. According to my views, therefore, the pupil dilates during abduction through diminished irritability of the *musculus abducens*. The diminished muscular exertion excites, through combination of motor and sensitive nervous activity, a diminished excitement of the retina. The impression of light is also felt more feebly, and the pupil is widened.

It is likewise not difficult to explain the dilatation of the pupil during wide opening of the eye-lids. The lower eye-lid has no depressor muscle; but in opening the eye, the obliquus superior thrusts the globe a little forwards, out of the orbit, by which the lower eye-lid is depressed. If the *levator palpebræ superioris* and the obliquus superior be extraordinarily exerted, the remaining muscles of the eye must be inactive, to allow the eye to project from the orbit. As during this act only a few muscles are in activity, we may conceive that the excitement of the retina is much less than when all the muscles of the orbit are in a moderate degree of activity. Thus, in powerful voluntary stretching

open of the eye-lids, the sensibility to visual impressions, even in a moderate light, is much weakened, the person sees indistinctly; and it is well known that many men can, by powerfully forcing their eyes open, look at the sun's disk at midday, whilst they are unable to do it with their eyes half closed. A further indication of the feeble influence of the will upon the *musculus abducens* is the fact, that few persons are able to abduct simultaneously both eyes, whereas every body can readily perform converging motions. As we commonly perceive in new-born children a squinting-like irregular movement of the eyes, it is probable that the habit of fixing them upon objects brings on a certain relation in the irritability of the muscles of the eye, by which the adductors obtain the ascendancy. Squinting itself affords an interesting contribution to my notion, that the sensibility of the retina is connected with the activity of the orbital muscles. Squinting is in most cases evidently the result of spasm of single muscles of the eye, and most frequently of those supplied by the *oculo-motorius*, in which, in the normal state also, the irritability is greater than in their antagonists. Through the same cause one form of club-foot (*Talipes varus*) is by far more frequent than the contrary deformity (*Talipes valgus*), because the muscles of the calf and the *tibialis posticus* are, in health, stronger than their antagonists. Such squinting eyes are always in the highest degree intolerant of light when being employed in vision, and the patient tries to direct them to an object; so much so, that when we bind up the sound eye, the affected one is filled with tears,—appears to be suffused in an ocean of light, and the pupil at the same time contracts. If the binding up of the sound eye be at first too long persisted in, the patients get giddiness, headache, and even vomiting: we are therefore obliged to increase gradually the duration of the binding up of the eye, to escape these effects of a too highly excited sensibility of the retina. This is a striking example of the combination of motor and sensitive nervous activity in their excess, in the form of spasm and hyperæsthesia, which, in a nerve of sensation, would be called neuralgia. I do not imagine that ophthalmologists will in this case be un-

* It is interesting to be able to add, that Professor Krause, of Hanover, has informed me that he has examined a person who lost one eye in early youth. His examination of this individual confirms my opinion; for in this case the pupil became as narrow during abduction as adduction.

certain from whence the first impulse be given—whether from the motor or from the sensitive nerves. Squinting has ever been looked upon as an affection of the muscles.

A similar connexion between an affection of muscles and hyperæsthesia of the retina exists in strumous ophthalmia. There are few ophthalmic diseases in which the intolerance of light is greater than in this; and yet the organic alterations which scrofulous inflammation of the eye depends upon lie in the eye-lids alone, for the deeper parts of the ball do not in the least participate in the affection. After years' duration only of intolerance of light, do we witness the cessation of this inflammation often without leaving any thing more behind than a few superficial opacities of the cornea,—never amaurosis, as we should expect if the intolerance of light depended on any other than dynamic circumstances. Surgeons have been hitherto unable to explain this singular intolerance of light satisfactorily. The above-related experiment upon the pigeon gives the key to its solution. If irritation of the muscles of the palpebræ produce violent contractions, make the retina more sensitive and lessen the pupil, it follows, that in tonic spasm, a cramp of the palpebræ, such as occurs in strumous ophthalmia, the sensibility of the retina must be increased to the utmost possible extent.

It is not a subject for investigation here, whether this cramp or constant contraction of the eye-lids arises from deposition of scrofulous tubercular matter in the glands of the palpebræ, and the consequent irritation of the orbicularis;—appearances teach us that cramp and intolerance of light constantly co-exist until the *material* cause be removed. Nobody can in the present case doubt from whence the first impulse be given—whether from the motor or the sensitive nerves: all the circumstances indicate too clearly that the irritation commences in the palpebræ. When once the axiom of the reflex operation of motor nerves upon nerves of sensation be recognized, it will be readily applied to the portio dura—the motor nerve of the orbicularis palpebrarum—and the optic nerve; because the re-action of the eyelids, through visual impressions, threatening danger to the eye, are so readily observable. If this power of prompt contraction of the palpebræ, under such

circumstances, be given to the eye as a protection, the re-action of the portio dura upon the optic nerves is certainly not without physiological importance, and the nocturnal *action* of the orbicularis (for as such its *contraction* during sleep must be considered) contributes, probably, to restore to the retina, by means of gentle currents of the nervous principle to it, the sensibility which has been exhausted by the day's continued excitement: for it is not absolute repose, but the persistence of gentle vital stimuli, which restores depressed sensibility. Thus, in paralysis of the bladder, the surgeon does not allow the urine to flow away continually, but only from time to time; in order that the fluid, by its constant stimulus, may assist in restoring the excitability of the bladder. It is known that in many persons the nocturnal contraction of the eyelids assumes a spasmodic character, and that on awaking in the morning, a quarter of an hour elapses before they, by long rubbing, can open their eyes properly. Indeed, I have met with individuals with slight inflammation of the palpebral margins, who, when awakened in the middle of the night, could see little or nothing for half an hour, through intolerance of light and spasm of the eyelids. This excess of nervous activity at night must necessarily depend upon the physiological relations of the eyes and their auxiliary organs.

From the above physiological and pathological data, I deduce the following conclusions:—The excitability of the retina is intimately connected with the irritability of the muscles of the eye. In proportion as the latter is manifested (*i. e.* by their contraction), the excitability of the retina is augmented. It is, therefore, extremely probable that the muscles of the eye possess, not merely the mechanical purpose of giving the eye the most advantageous direction in an optical point of view, but that they also, according to the extent of their contraction, serve to induce those exact gradations of sensibility of the retina, which are precisely requisite, according to the distance and illumination of the object. The narrowing of the pupil whenever the eye is powerfully exerted, to obtain perfect vision of an object, fully agrees with my ideas, whether we regard the object fixedly with one or with both eyes, or

whether, in short, the eyes converge, or one eye be closed, so that vision be effected more during *abduction*. If, therefore, an eye-ball totally void of appropriate muscles, were susceptible of visual impressions, it would, at all events, be incapable of distinct perception of an object; as, for that purpose, the necessary augmentation of the sensibility of the retina, which depends upon muscular contractions, would be wanting. When we, therefore, desire to convert the imperfect impression of any object lying within the field of our vision into a more perfect one, so as, in short, to fix our attention upon it, the following chain of events ensues:—Our power of volition excites those increased currents in the motor nerves which are essential for the production of the corresponding centripetal currents from the retina to the brain, and which are indispensable for clear perception of the object. The so-called *motus oculi interni*, concerning which so much has been written, without inculcating any clear notion on the subject, are probably limited in man to these gradations of the sensibility of the retina which depend upon the will. If these internal motions of the eyes really take place in many animals—for instance, in birds of prey, it may be presumed that in the majority of fishes the muscular apparatus of their immoveable eyes is confined in its operation to the influence which it exerts upon the irritability of the retina. This influence of the ocular muscles is the more necessary in fishes, as in them the *portio dura* is wanting. Short-sighted individuals, it is well known, have the habit of semi-closing their eyelids when they desire to see any thing accurately. This habit has been considered quite useless. In like manner physiologists in general are disposed to explain away many phenomena as accidental, if the causes be not quite clear to them. The connexion of the *portio dura*, as motor nerve of the *orbicularis palpebrarum*, with the retina, perfectly explains that daily observable fact; the contraction of the *orbicularis*, therefore, assists the other muscles of the eye in rendering the retina more sensible.

It constitutes a singular want of harmony between physiology and pathology, that practitioners of all shades of opinion descant about augmentation of sensibility, without their having any

generally received comprehension of its causes—whether it depend alone upon morbid or diseased excitement, or whether it be a process of the normal state, or occur even voluntarily. Physiologists are more to blame for this uncertainty than practitioners; for the former should direct their investigations more towards pathology, instead of neglecting that science for the *too exclusive* cultivation of the nevertheless highly necessary experimental physiology and comparative anatomy. Physiological labours would thereby acquire a more universal interest for the professional public; whereas they at present frequently excite a painful perusal, through the numerous relations of tormenting vivisections. The researches of the English physiologists are, in this respect, far preferable to those of their German rivals, probably because the former, unlike my countrymen, do not entirely withdraw themselves from practice for the sole prosecution of their physiological studies. These latter should bear in mind, that many of the greatest physiological discoveries have been made by practising physicians and surgeons.

Audition.—The organ of hearing is furnished, in many animals, with an important muscular apparatus, which, according to our former notions, effects merely the easily conceivable purpose of producing those mechanical alterations necessary, in conformity with the laws of acoustics, to direct the ear towards the spot from whence the sound emanates. This muscular apparatus is perfected in proportion to the difficulty with which the animal's head can be moved in all directions. With equal design, muscles of the ear are wanting in most birds, being replaced, in that class of animals, by the great moveability of the head. The human ear is provided with a considerable number of muscles, but if we occasionally observe an individual who is able to move voluntarily the muscles of his ears, the instance must be regarded as an exception to the general rule; for man, in order to hear correctly, must direct one side of his head to the place from whence the sound comes. When the exception even exists, no mechanical advantage is obtained by it, nor do the subjects of it move their ears when they listen attentively. It would be a ridiculous assertion to maintain that na-

ture made these muscles for mere amusement: such freaks must be least sought for in the masterpiece of the creation—man.

Nature, in my opinion, has supplied the human ear with external muscles, in order to send to them a certain number of filaments of motor nerves, by acting upon which we keep the auditory muscles in a state of tension, although no motion of the concha is effected, and are thus enabled to augment voluntarily the centripetal currents of the acoustic nerve. An additional object, undoubtedly, is, that these muscles shall support the ear in its appropriate position and state of extension; thus they are so arranged as to antagonize one another in their actions, when exerted simultaneously. Observation confirms this opinion, for we may clip the ears of dogs without perceptibly injuring the acuteness of their hearing. When their attention is excited, they move the small stump which remains, and attain in that way the main purpose of the muscular apparatus—the acceleration of the currents of the nervus acusticus to the brain.

If we compare the large muscular apparatus of the eye with that of the ear, we must conclude that the small muscles destined to move the ossicula auditus and tympanum can scarcely suffice to increase the irritability of the auditory nerve; we must, therefore, attribute to the muscles of the external ear a participation of the same function. It is well known that the external auditory muscles are partly supplied by the portio dura, and the connexion of this nerve with audition is altogether so great, that the expression of the countenance alone betrays hard-hearing people, owing to the peculiar effect of the action of the muscles of the face. Violent exertions of every kind show themselves in the features; and it is proverbial that impending danger sharpens the senses. The apparently useless simultaneous action of the facial muscles during extraordinary exertions may be thus not without utility, if the excitement or calling into operation of the functions of the portio dura be capable of augmenting the sensibility of the retina and the nervus acusticus.

The rheumatic, which is one of the most frequent forms of deafness, has hitherto been attributed to inflammation of the internal ear and its conse-

quences. Rheumatism of the ear, which specially affects, here as elsewhere, muscular and tendinous parts, appears to me, in many respects, comparable to rheumatico-catarrhal ophthalmia. That disease presents great intolerance of light, although the external parts of the eye are alone affected. Rheumatic excitement of the muscles of the ear produces at first hyperæsthesia of the auditory nerve, humming and tingling in the ears, and after frequent repetitions of the rheumatic affection, exhaustion, and torpor of the nerves. This idea cannot remain without interest in practice, as it teaches us, in the treatment of some affections of audition, that in order to act upon the nervus acusticus we must apply our therapeutics to the muscles supplied by the ramifications of the portio dura and auricularis magnus nerves; it explains the operation of many remedies, for instance steaming and fomentations, the resting the head upon pillows stuffed with certain herbs, a means frequently adopted, and probably even the utility of galvanism, &c.

Taste.—Motions of the tongue are indispensably requisite for the perfect perception of the taste of fluid ingredients. We are not usually sensible of the sapor of our saliva, but by a few movements of our tongue we obtain the taste of it immediately, even when we avoid touching any part of the oral cavity with the tongue, so that the question cannot be raised, whether it be not by rubbing in of the sapid body, or mechanical excitement of the papillæ of the nerves, through which the more perfect perception of the taste might be explained. The taste of a fluid, weak tea, for instance, is not perceived as long as it is retained in the mouth quite at rest, nor when the fluid first touches the tongue, if we at the same time exert our power of holding the organ perfectly quiet. It is only during or after movement of the tongue that we can taste. It is true that with acrid ingredients it is otherwise, but when testing the susceptibility of the gustatory nerve, we ought not to institute experiments with colocynth, or with oil of vitriol, as some have done. The effect of galvanism upon the tongue is, perhaps, here worthy of mention. We know that it induces an acid taste; this depends upon the galvanism exciting the motor nerves of the tongue, and inducing, therefore, hyperæsthesia of the gustatory

nerve, in consequence of which the saliva appears to be sour. For correct gustatory impressions, the sapid substance must not be kept constantly in immediate contact with the tongue; fluids are, therefore, for the most part, mixed with air, which enables us to taste them better. The contradictory nature of the opinions of physiologists concerning the functions of the different nerves of the tongue is very remarkable; but the want of unanimity appears to me to afford the proof of the important reaction which the various nerves of the tongue exercise upon one another. The investigations of Panizza, of Pavia (MED. GAZETTE, Sept. 1835, p. 848), show positively that the *nervus hypoglossus* is the nerve of *motion*, the *lingualis* the nerve of *common sensation*, and the *glosso-pharyngeus* the nerve of the *sense of taste*. The following is my opinion: the reaction of these three nerves upon one another, the *lingualis*, as the nerve of common sensation, gives information of the presence of the substance to be tasted, directs the attention of the tongue to it, or, physiologically speaking, according to the theory of the *reflex functions* of the nerves, increases the activity of the motor nerve by reflexion from the sensitive nerve; the excitation of the motor nerve and consequent contraction of the muscles of the tongue, augments* the centripetal currents of the true gustatory, the *glosso-pharyngeal* nerve, by which the propagation of the impression of taste to the brain ensues. If either of these three agents, the *lingual*, the *hypoglossal*, or the *glosso-pharyngeal* nerves, be deficient in their functions, the sense of taste must be proportionally injured.

The experiments which have been instituted to ascertain the function of those nerves have been usually too coarse. Persons have been satisfied if salt or colocynth have been recognised. Precisely as a difference exists between perception of light and vision, is there also a difference between tasting, and the tasting of colocynth.

Olfaction.—The susceptibility of the *nervus olfactorius* to odours is so intimately connected with the functions of the respiratory nerves, that it must ex-

cite surprise that this circumstance has not yet attracted the attention of physiologists. It appears that the perception of the finer odours takes place only during inspiration, and without inspiration many powerful and volatile odiferous materials are not smelt at all.

I do not doubt that hecatombs must be sacrificed to the genius of modern physiology, before the correctness of my theory can be considered fully demonstrated. I am not deficient in the spirit of invention necessary for experimenting upon animals, but I have not the inclination needed for their execution. I willingly leave this part to the physiologists by profession, whom I must, however, remind, that “*irritation of a motor organ, by mechanical or other means, does not induce increased currents from the central organs of the nervous system, towards the spot irritated,*” but only from the irritated spot of the nerve downwards: and for this it is indifferent whether the muscular fibres themselves or their nerves be irritated. “*In order, therefore, to cause currents to emanate from the centre, reflex motions must be produced;*” for they alone, like the emanations of the will, are combined with centripetal currents in the sensitive nerves. Irritation of motor nerves will never produce such combinations, as the nervous currents in the motor nerves are only centrifugal.

As I only consider this short treatise as a somewhat diffuse thema for physiological investigation, I will add the following theses to it, as they are intimately connected with it:—

1. By the activity of motor nerves there are excited not merely combinations in the sensitive nerves, but the innervation of other motor parts is diminished—for example, during the activity of the flexors, that of the extensors is lessened; during the activity of the respiratory muscles that of the inspiratory suffers; so that, for instance, the *latter* may even be paralyzed by violent and long continued cough.

2. The vegetation of different organs, between which a *combination of motor and sensitive-nervous activity* exists, is intimately connected. If there really be vegetative nervous filaments, they run probably in company with the symmetrical nerves. Perhaps, however—indeed, it appears to me exceedingly probable—that there is no difference be-

* Can it augment the centripetal currents of the true gustatory? It *may* possibly augment the susceptibility of that part of the central organ where the impression is received.—W. J. L.

tween the nature of the influence of the nerves of motion and sensation, on the one hand, and that of those of vegetation on the other, except *in modo*.

3. The influence of the ganglionic system upon the vegetation of those parts not supplied with ganglions, consists in the development of the *combined* and *reflex* functions of the symmetrical nerves. The office of the ganglions is to keep up the effects of received impressions longer, and to maintain the combinations of nervous activity in vibration, as it were, until fresh vital stimuli come into operation.

4. There are no so-called cotemporaneous motions without intervening sensitive combinations.

5. There is no so-called cotemporaneous sensation without intervening reflex motion.

[To be continued.]

TONIC TREATMENT OF ERY- SIPELAS.

To the Editor of the Medical Gazette.

SIR,

IF you think the accompanying communication worthy publication in your very valuable journal, you will oblige me by inserting it.

I have the honour to be sir,

Your obedient servant,

A. KIRKUP, Surgeon.

Blackheath, April 17, 1837.

About the commencement of last month, I was attending two young ladies, residents in the same house, one aged 12, with scarlatina, the other between 20 and 30, with erysipelas of the face,—the only two cases of their kind on my list at the time.

I was pursuing successfully in both cases the system so admirably developed and satisfactorily supported by Dr. Williams, of St. Thomas's Hospital, in his extremely valuable and philosophical work, the *Elements of Medicine*, lately published, when I was myself seized with scarlet fever. My throat was but slightly affected, but the prostration of strength and depression of spirits was extreme.

Notwithstanding I suffered considerably from headache, my medical friends treated me in accordance with the system in question, and put me on milk and farinaceous diet, with 3vj. of sherry daily, keeping the bowels open with as much Epsom salts as was necessary. My head was speedily relieved, and my pulse, which was at one time almost countless, became steady, and I went through the fever most satisfactorily. The eruption, however, had scarcely left my extremities, when I was attacked with erysipelas of the face. I continued the same plan, but not finding it sufficient to prevent the inflammation spreading, two grains of quinine were added every three hours. This effectually checked its progress, and at the end of ten days was discontinued. The course of each disease was severe,—their joint duration twenty-eight days; I am, however, now perfectly convalescent.

There can be little doubt I took both complaints from the parties alluded to, and that the poison of erysipelas lay dormant while that of scarlatina ran its course. But the treatment is the subject with which the profession will be most interested; and this is another instance (if other be wanting) to prove the value of the doctrine in question, or that the *tonic treatment* is preferable to any other in these cases,—an opinion I am the more confirmed in, as I have recently treated two other patients for erysipelas successfully on the same plan. I cannot, therefore, but consider the profession greatly indebted to the work alluded to for its powerful advocacy of a system from which so much good is likely to result.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

VITAL STATISTICS. *Mortality of different periods of Life*. By M. E. MALLET. (*Annales d'Hygiène publique*.)

IN the number for January of the journal above quoted, there is an elaborate and well-constructed paper by M. E. Mallet, containing a series of statistical researches

on the population of Geneva, from the year 1549 to 1833. The objects of this memoir, which has occupied the author more than two years, are—to exhibit the population of the town of Geneva, its annual and successive changes, the proportion of the births, the productiveness of the marriages, the mortality and duration of life,—to shew the gradual increase of the number, and of the longevity, of the inhabitants—to find out, in short, the constituent elements, the conditions, and the law of the existence of this population.

To those who are interested in these important subjects, which the labours of Malthus, Quetelet, Duchatelet, our esteemed correspondent Mr. Rickman, and others, have of late years reduced to scientific investigation, this memoir will prove a valuable document, as the author seems to have had very authentic materials to work with, and a good knowledge of the methods of calculation and abstraction necessary to obtain from them their general properties or laws. We insert a short extract of one of the results, relating to the mortality at different ages.

“The first day of life is also the day of death to so many as one in fifty-one. The second day is three times less fatal than the first. On the third, fewer by one-half die than on the second. The mortality diminishes further on the following days, regularly, but less rapidly. The remainder of the first month is, however, still very dangerous, since the death of about half the children who die in the first year takes place in this first month, which is thus eleven times more destructive than the others. The deaths during the first month amount to 6·85 per cent. of the births.

The mortality diminishes from four and a half to one, from the first to the second month; from two to one from the second to the third; from three to two from the third to the sixth. In the last six months of the first year the diminution of mortality is scarcely perceptible. During the whole first year one infant dies out of 7·2.

A comparison of the mortality during the first year at Geneva, in former times, or in other countries at present, with that of Geneva in late years, speaks much in favour of the latter. In 100 deaths at Geneva, the following proportion died within the first year:—

In the 17th century	23·72
In the 18th	20·12
In 1801-1813	16·57
In 1814-1833	13·85
In England (Mr. Rickman) ..	19·5 *
In Belgium (M. Quetelet)	22·47*

The second year is three times less dangerous than the first; it carries off one in twenty-one. The third is still less destructive by one-half, taking one in forty-two.

From three to eight years the mortality decreases nearly two-thirds. From eight to seventeen it is very feeble; it is during this period that the years of lowest mortality occur, the tenth and the fourteenth. After seventeen years the proportion of deaths increases about a third, and remains balancing about the same rate till about forty-five. From that age it increases, at first gradually, but soon at a more rapid rate. Thus from fifty-one to sixty death carries off a fourth; almost half of those who attain the age of sixty-one die before they attain seventy. Of septuagenarians three-fourths fall before eighty; and ten-elevenths of those who pass eighty die before ninety. The total number of those who have completed ninety years is fifty-six, or one in 194 [of the last class, we presume]. The oldest of these died at ninety-nine, no example having occurred of an individual at Geneva living a hundred years.”

It appears that the Genevese of the present age were surpassed by their ancestors in fecundity, but exceed them in longevity. This is no doubt a result of their high state of civilization, of which Mallet boasts. They grow older and wiser.

Manual of General Anatomy. By J. F. MECKEL. Translated from the German into French, by A. J. L. JOURDAN and G. BRESCHET; and from the French into English, by A. S. DOANE.

THIS translation contains the Manual of Meckel, in a very cheap and portable form. It is calculated to be of great use to the anatomical student, comprising as it does some useful notes by the translator, in addition to those which MM. Jourdan and Breschet affixed to the French edition.

* To make the comparison just, M. Mallet should have stated what length of period furnished these numbers.—ED. GAZ.

MEDICAL GAZETTE.

Saturday, April 29, 1837.

“Licet omnibus, licet etiam mihi, dignitatem
Artis Medicæ tueri; potestas modo veniendi in
publicum sit, dicendi periculum non recuso.”

CICERO.

CLINICAL INSTRUCTION.

IN our last number we hinted at the idea which, whether erroneously or not, has been expressed in various quarters, that the future regulations regarding medical education will establish a closer union than has heretofore existed between clinical and theoretical instruction. The importance attached by the College of Physicians to this point, has been shewn by their requiring three years' hospital attendance; and the Worshipful Society has also recently augmented the period required of their licentiates from a year to eighteen months.

The question is a very important one, and will doubtless also occupy the attention of the members of the University of London at no distant period. We shall therefore glance at some of the principal points connected with it.

According to the old regulations of the Society of Apothecaries, a pupil might present himself for examination without having followed the practice of an hospital; but by the last regulations, attendance on the medical practice of an hospital is compulsory during the second winter and the second summer of the pupil's studies. During the third winter it is left to his choice whether he will attend at an hospital or a dispensary. It is probable that the effect of this regulation will be ultimately to cause an entire desertion of the dispensaries by pupils; and, indeed, the reference which they make, in one

passage of their regulations, to the “liberality of the physicians of the London hospitals,” in charging no additional fee for an augmented attendance, seems to show that this has been anticipated by the Society.

In the assertion that the pupil is required to attend hospital practice for eighteen months, it is supposed (and very naturally too) that few pupils will enter at a dispensary their third winter, when the original hospital fee will cover the whole eighteen months of required attendance. Still, however, as there may be some (we hope many) pupils who, to use the words of the regulations, will not “rest satisfied with a mere formal compliance with the injunctions of authority,” but will be desirous to acquire knowledge wherever that may best be done, it may not be inexpedient if we give a short view of the benefits to be derived from various modes of studying the practice of physic; nor do we think that, in so doing, we can follow any better guide than the excellent Essay on Clinical Instruction, by Dr. Rust, of Berlin. Practical instruction, he observes, may be obtained in three different kinds of institutions.

1st. In a *clinique*, where the patients are selected from the wards of an hospital.

2dly. At dispensaries.

3dly. In ordinary hospital practice.

The advantages and disadvantages of the several methods are briefly as follows:—

1. A *clinique*, containing from twelve to twenty-four beds, established in a great hospital, under the guidance of an efficient teacher, affords the pupil extraordinary advantages. The pupil here gets an account of all that is done for the benefit of the patient, and learns the why and wherefore of every thing that takes place. He not only observes the consequences of the medical and regiminal treatment, but can himself under-

take the care of patients, under the superintendence of the professor, and ask for information in all difficulties. The teacher thus gains the opportunity of correcting the erroneous views of the learner, while other practitioners who are attending the course enjoy the benefit of his remarks. From the limited number of patients, too, the professor can direct the attention of his pupils to every diagnostic mark during life, as well as to those lesions which are detected by a post-mortem examination alone; he can teach them the art of observing and learning, and can give real clinical or bed-side lectures.

In the domain of *materia medica*, likewise, such a clinical institution is the best guide. It is at the bedside that the learner first perceives the necessity of knowing the special as well as general powers of every remedy; and it is there alone that the physician can shew that he knows how to select the most appropriate remedy for each particular case, out of the number of those which belong to the class of agents required.

The *materia medica*, when deprived of the simultaneous reference to a patient before us, is a dry though necessary preliminary study; nor can it be fundamentally learnt in a purely theoretical manner. Its application according to special indications is its best commentary.

The last advantage of such an institution is, that the patients best suited for instruction can be transplanted from the general into the clinical wards, and sent back whenever it may be expedient. In spite, however, of all the advantages of such a *clinique*, it is by no means exempt from defects. The pupil, on the whole, sees but few patients; and if he finishes his practical education in an establishment of this kind, where all independent observation and treatment are necessarily denied him, he becomes too habituated *jurare in verba magistri*,

and loses the power of seeing for himself. But should it unluckily happen, in addition, that the clinical professor is not sufficiently communicative—if he forms his diagnosis, and obtains his indications, without the aid of his auditors—if he orders a bleeding here, and leeches there, and this or that drug, without giving the grounds of his preference in a clear and perspicuous manner,—in a word, if he be not happy in his mode of instructing—if he leaves his pupils to teach themselves, then, in such a case, a *clinique* is, of all, the least adapted to facilitate the progress of a young practitioner.

2. A dispensary in most of the German Universities has in- as well as out-patients; and if, in addition, it is so situated that the majority of the pupils can be present at the daily prescriptions of the professor at the bedside, it really unites in itself all that can reasonably be asked of it. Such an establishment is indisputably the best of all, in those Universities where the concourse of pupils at the *clinique* is not too great; where the professor finds time and opportunity to instruct each individual according to his capacity, and where he is able to superintend the proceedings of the students at the bedside. A dispensary conducted after the German manner, is adapted, above all other clinical establishments, to give independence to the young physician—to awaken his practical tact—to teach him to distinguish imaginary ailments, and mere indispositions (which are not usually objects of hospital practice) from real diseases; and at the same time to make him acquainted with the domestic relations of the sick, and with those obstructions and injurious dietetic influences on which the most judicious medical prescriptions are so often wrecked, and to overcome which often gives the physician so much trouble in private practice.

But with all these advantages of polyclinical (dispensary) practice, it has its dark side also. There is no opportunity here for the selection of patients for instruction, according to the different classes and stages of diseases, nor for that juxta-position of cases, similar in appearance but differing in essence, which is of such high importance in sharpening the diagnostic *coup d'œil*.

Another inconvenience is, that as almost every student in reality treats his case by himself, it is thus lost to the rest; while, by visiting the sick in their lodgings lying in the most distant parts of the town, his time is much taken up, and abstracted from other studies. But the worst is, that the young student, though perhaps he has never seen a similar case, is to find out the disease, and venture to prescribe for it. The account given by the raw student of the state of his patient to the professor must often of course be imperfect; and yet the latter cannot possibly visit every patient, and overlook every prescription. The results, too, which the young practitioner draws from his patient's malady, and the effect of remedies upon it, are by no means free from error; for who knows not that nature is frequently able to overcome not only the disease but the physician, and that consequently many a patient gets well in spite of the injudicious treatment he has undergone? The student, however, thinks, as uninitiated persons always do, that each recovery is proof positive of the soundness of the treatment which preceded it, and is sadly misled in consequence.

3. An hospital attendance may be of two kinds: either the student may merely accompany the physician in his rounds, and afterwards seek for farther information from the case-book; or he may act for a certain time as clinical clerk (Dr. Rust says as assistant physician, or dresser). This second mode is undoubtedly the best, but unfortunately must be confined to the mino-

riety. When it is vigorously taken advantage of, there is no *clinique* which can afford the student the opportunities to be derived from hospital practice. The patient is open to his observation at all hours of the day, and he learns at the same time all the minutiae of attendance on the sick, as well as the whole interior economy of an hospital. But even the other students, who do not immediately attend the patients, obtain the daily opportunity of seeing numerous cases of all kinds, and of observing their treatment. Thus their practical tact is sharpened, and by the simplicity of the treatment, as well as by the repeated use of the same remedy in different morbid states, they not only become rapidly acquainted with a multitude of remedies approved by experience, but are brought to the conviction, that very different indications may be fulfilled by one and the same remedy, and *that* often a simple and cheap one.

But however manifold the advantages which are derived from hospital practice as a means of instruction, and true as it is that the treatment of patients in masses can be learnt by it alone, yet is this method of instruction by no means free from defects; nay, it is in some respects prejudicial to the student who tries to obtain practical knowledge solely in this way. The multitude of objects to be studied is too great to allow him to distinguish the common from the rare; and the young man, not yet versed in the art of observing, cannot appreciate the opportunities presented to him. A due analysis of the *ratio medendi* is here quite out of the question. This is the place for doing, rather than for teaching. Hence no kind of clinical instruction creates so many slaves of routine as hospital practice, in the manner in which it is frequently conducted.

What, then, is the fair conclusion to be drawn from this balance of advantages and disadvantages? Not, surely,

that one method of instruction is to be followed to the exclusion of the others, but that each is to be adopted in its turn. This inference, indeed, is distinctly pointed at in the "Regulations," where it is suggested to the governors of hospitals "to re-organise their respective out-patient establishments, and afford to students an opportunity of studying large and important classes of disease, which are very rarely admitted within the wards of an hospital."

At several of the metropolitan hospitals this has been done; and a very extensive field of observation is afforded by the "out" patients,—a department which, in some of the institutions alluded to, is under the exclusive management of one or more physicians and surgeons, who are assisted by the senior pupils, in proportion as they become sufficiently advanced to be entrusted with such a charge.

NEW MODE OF FILLING UP VACANT OFFICES.

THE time approaching when the Hygeian course of lectures should be given in the Medical School of Paris, and the late vacancy in the Professorship not having been filled up, it was resolved to decide by lottery who should undertake the task. Certain numbers were put into a hat, and MM. les Agrégés were made to draw the lots. C. Broussais and Meniere were the [qy.] winners. We strongly recommend this ingenious device to the patrons of colleges and schools among us. It is not a hundred years since there was no little bustle and intriguing about a certain Professorship of Anatomy; and, if report speak true, there has been some pretty sharp work in the new University about the choice of a Registrar. As in this case we suspect that not even the decision of a DANIEL would be looked upon as impartial, we venture to ask—Would it not save them a great deal of

trouble were they to adopt the Paris fashion, and let the office be filled by

"Whoe'er shall draw
The longest straw"?

By the way, a correspondent, who gives his name and expresses himself authoritatively, writes us, that Dr. Forbes, of Chichester, neither is nor ever was a candidate for the office in question. It may be so; but has not a friend in the University endeavoured to procure it for him, nevertheless?

ILLNESS OF DR. DALTON.

WE regret to learn by accounts from Manchester, that this distinguished philosopher suffered an attack of paralysis on Tuesday, the 18th instant. He was better next day, but had a recurrence of the paralytic fit on Thursday, and remains, by the last accounts, entirely deprived of speech.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, April 25, 1837.

DR. BRIGHT, THE PRESIDENT, IN THE
CHAIR.

On the Frequency, Nature, and Diagnosis of such Excavations in the Lungs as are independent of Tubercles. By P. N. KINGSTON, M.D., Physician to the St. George's and St. James's Dispensary.

THE author commences his paper by observing, that in combatting the opinion of Laennec and Andral on the subject of the origin of pulmonary excavations,—namely, that they result almost exclusively from the breaking down of tubercles,—he does no more than revive an opinion which up to the last fifteen years was generally entertained.

The author having examined the thoracic viscera in sixty-five fatal cases occurring at St. George's Hospital in the course of fourteen months, found in seventeen of the number pulmonary excavations unaccompanied by tubercles, as defined by Andral, and of these thirteen were also unattended with the tuberculous infiltration of Laennec. He has met with three cases in which pulmonary excavations were produced by the breaking down of fungoid and encephaloid tubercles, the pulmonary affection being secondary on long-standing schirrous and encephaloid disease—in two cases of the breast, in one of the liver.

In one case, in the opinion of the author, the excavations arose from gangrene. In ten of the cases, symptoms which had existed for some weeks before death shewed that the inflammation preceding the excavations had been acute. In the remaining six, the local appearances were such as even Laennec and Louis would have allowed to have been clearly indicative of inflammation.

The author has met with many cases in which, after death, there were found in the part of the lung where inflammation had been seated, capsules filled with dry calcareous matter, of various degrees of coherence. He believes these calcareous bodies to have been formed by deposition, from the pus which, in the first place, had filled the cavities, but had been eventually absorbed. Even where excavations occur in conjunction with tubercles, the author is not prepared to admit that they are always to be attributed to the breaking down and evacuation of those bodies, but thinks it probable that a considerable number are the effects of pneumonia.

Admitting that the existence of pulmonary excavations can be detected with much accuracy by the stethoscope, the author cautions practitioners from concluding with Laennec, that such cavities imply the existence of tubercles, such an error being likely to produce very many fatal mal-practices.

ROYAL INSTITUTION.

Friday, April 21, 1837.

Mr. Solly on the Brain.

A LECTURE, by Mr. Brockedon, on Cameo and Metal Die Engraving, had been announced for this evening, but owing to the illness of Mr. B., Mr. Solly, of St. Thomas's, undertook, at a very short notice, to supply his place. He delivered an interesting lecture on the *Comparative Anatomy of the Nervous System, and especially of the Brain*, and illustrated his views by reference to a number of well-executed drawings. Avoiding all minute details, he confined himself to the leading points of his subject, of which he conveyed a very clear idea to his audience. He commenced with some remarks on neurine and its two kinds—the pulpy and the fibrous—whose offices he explained; and after this proceeded to trace the nervous system, from the state in which it exists in the lowest kingdom of nature in which its existence has been demonstrated, up to that in which we find it in man. In doing so, he explained the most interesting points in the nervous system throughout the various divisions of the animal kingdom, and how the different senses are more or less developed according to the wants of each

individual: as for instance, the sense of sight in birds. He also demonstrated most clearly that the simplest forms in which we have been able to detect the nervous system are accurate types of its more complicated forms, and ended by briefly explaining the anatomy of the human brain. On the whole, we have only to regret that he did not enter at all into the physiology of his subject, as it is always more interesting to a popular audience than a demonstration of facts, however clearly made. We do not enter into details on this occasion, because we have lately had an opportunity of bringing some of Mr. Solly's views before our readers.

Among other objects of interest in the library, we observed a dried specimen showing very distinctly the germination of the cocoa-nut.

ST. GEORGE'S HOSPITAL.

Fatal Extravasation of Blood in the Brain, and into the Lumbar Spine, from an external injury.

JOHN BROAD, aged sixty-six, admitted February 24th, under the care of Sir Benjamin Brodie, with a lacerated wound of about six inches in length, extending longitudinally over the right parietal bone. He was quite sensible on admission, his pupils natural, and his pulse slow and regular; numbness and loss of sensation, but not of motion, affecting the lower extremities, accompanied with great pain in the loins. Tibia of the left leg was fractured close to the condyles. The accident was occasioned by the partition of a house falling on him. The scalp wound was dressed with the ungt. cetacei, and the leg was put into a junk.

25th.—His pulse having got up, he was bled to \mathfrak{zviij} .; the blood drawn was slightly inflamed. Has less motion of the lower extremities than yesterday. Bowels not open. Has not passed any water since yesterday morning; complains of no pain whatever; merely of numbness in the lower limbs. Vespere, 10 P.M. a catheter was introduced into the bladder, and \mathfrak{ziv} . of alkaline urine, deeply tinged with blood, were drawn off.

R Haust. Sennæ, \mathfrak{zvj} . statim.

26th.—On examining the scalp wound, the bone was found denuded to some considerable extent. Complains of no pain in the head. $\mathfrak{z}lxx$. of urine were drawn off in the course of 24 hours; it had become acid, and was clear and limpid: other symptoms unabated; bowels opened by the medicine; tongue moist and white.

27th.—Loss of motion, as well as of sensation, of the lower limbs: stools, which are clay-coloured, are passed involuntarily.

3xlviij. of limpid acid urine were drawn off in the course of the 24 hours; pulse very quick and weak; tongue white, with red edges; wound of the scalp is suppurating.

R Spiritus Genevæ, ʒij. statim. Beef tea.

28th.—Has some slight return of sensation in the thigh: ʒxvj. of clear acid urine were drawn off last night, and ʒxxx. of the same character this morning; pulse fuller and less quick; tongue dry and furred; scalp wound discharging healthy pus. His stools are still passed involuntarily.

Perstet.

March 3d.—Since the last report there has been no change in his symptoms. The quantity of urine, which has continued acid, has varied from ʒxl. to ʒxlviij. in the 24 hours. ʒviiij. of urine were drawn off last night, and ʒvj. this morning, which is acid, and rather high coloured. A slight blush of redness of a very pale character, accompanied with some œdema of the right eyelid, has appeared on the right side of the face. No vomiting or shivering; tongue very dry and furred; pulse small and very weak; bowels not open.

R Haust. Salinus Ammon. effervescens, 4tis. horis.

4th.—ʒxviiij. of urine were drawn off last night, which was slightly alkaline and dark coloured; ʒxxiv. more drawn off this morning, which was tinged with blood, and alkaline. The erysipelas is paler and not spreading; skin hot; pulse very small and weak; tongue dry and furred: no return of motion to the lower extremities, but he still has some slight sensation in the thighs. A part of the tendon of the occipito-frontalis muscle is sloughing, and the scalp wound is looking unhealthy. Within the last two days a large slough has formed over the sacrum, and a smaller one over the right ancle.

Repr. Spt. Genevæ, ʒiv. et haust. Salinus, ut antea.

5th.—ʒxxiv. of urine drawn off last night, which was alkaline and ammoniacal, and contained a large quantity of ropy mucus. ʒxvj. of urine of the same kind were drawn off this morning. Stools passed involuntarily as before, and they are of a dark brown colour; tongue very dry; pulse 120, very weak.

6th.—ʒxij. of urine drawn off last night, and ʒxxx. this morning; it was both alkaline and highly ammoniacal, and contained a large quantity of ropy mucus. His manner is very tremulous; sordes about the teeth; tongue very dry, and encrusted with a brown fur; erysipelas is fading.

R Infusi Rosæ Compositi, ʒiss.; Magnes. Sulphatis. ʒij.; Acidi. Sulph. dil. ℥x. 6tis. horis.

7th.—ʒxij. of highly alkaline and ammoniacal urine were drawn off last night, and the same quantity this morning. Is very weak and low, and is evidently sinking. Pulse very small and weak. Passed one stool this morning, which was very dark coloured, and much resembled tar.

Gradually became lower, and died at 5 P M.

Post-mortem examination.—On removing the upper part of the cranium and reflecting the dura mater, a quantity of coagulated blood of a dark colour was found lying on the posterior part of the surface of the left hemisphere. Brain rather soft, but no unusual vascularity observable on any part of it. There was a clot of dark-coloured coagulated blood lying on the peritoneum on the right side. Rather more fluid than natural in the ventricles. Cranium not fractured.

The arches of the vertebræ being removed, some blood was found effused on the outside of the sheath of the spinal cord in the lumbar region; none, however, was discovered within the theca itself. A section of the termination of the spinal cord presented blood effused in its substance, the medulla having a softened and bruised appearance. No fracture of any part of the spine could be detected. The cauda equina was more vascular than natural. In the cellular tissue, along the bodies of the vertebræ, blood was effused to a considerable extent.

The fracture of the tibia was immediately below the attachment of the ligamentum patellæ, and extended through the cartilage into the joint, the cavity of which was filled with blood, which had stained the cartilage of a brownish hue.

On examining the cavity of the abdomen, the gall-bladder was found very much distended and filled with tar-coloured bile. The right kidney on being cut into presented a sacculated appearance, and two mulberry calculi were found within its cavity. The right kidney was very much enlarged, but otherwise healthy. The mucous lining of the bladder was much thickened and corrugated, and in one part was of a dark brown colour.

Other viscera healthy.

PRACTICE OF MIDWIFERY.

DR. RIGBY IN ANSWER TO DR. JAMES HAMILTON.

To the Editor of the Medical Gazette.

SIR,

SOME observations having appeared in the 2d volume of a work on Midwifery, lately published, by Dr. James Hamilton, of

Edinburgh, seriously impugning my father's veracity, and endeavouring to detract from the merits of his well-known and valuable Essay on Uterine Hæmorrhage, I am induced to trouble you with the following quotations and remarks. Dr. Hamilton's observations are as follows:—

“The separation of any portion of the placenta previous to the occurrence of labour, may be the effect of accident, or it may be the necessary consequence of its adhering to a part of the cervix uteri. This latter cause was discovered about the middle of the last century; it was particularly noticed, in the year 1752, by Dr. Smellie, who at that time practised and taught midwifery with great success. It was afterwards described by Mons. Levret, of Paris, in 1756; but it does not seem to have attracted the attention of British practitioners till the publication of Dr. Rigby, of Norwich, in 1776; who availed himself of the discoveries both of Dr. Smellie and Mons. Levret, while he contrived to make the profession believe that his doctrines were original. Dr. Rigby's distinction of those cases (*viz.* into accidental and unavoidable), borrowed without acknowledgment from Levret (p. 343), is perfectly correct, but his inferences have led to very serious errors in practice. His professed belief was, that by ascertaining the cause of hæmorrhage, the probable event would be certainly predicted, and the appropriate treatment as certainly decided upon. Had that opinion been true, the practice in those distressing cases must have been greatly simplified; but every member of the profession can bear witness to its inaccuracy.” —(Vol. ii. p. 238.)

The charges so unwarrantably brought by Dr. Hamilton against my father's memory are two-fold: firstly, pirating Levret's observations; secondly, of erroneous practice. With regard to the first, the *truth* of it will be best shown by my father's own words, in his Preface to the fifth edition of his work, published in 1811, twenty-six years prior to the publication of Dr. Hamilton's.

“Not long after the first edition was at press, indeed before the first sheet was printed, Levret's dissertation on this subject fell into my hands; and, in a note, I referred to it, as an additional testimony in proof of the placenta, in these cases, being originally attached to the os uteri. I have been led into this little detail, because it has been suggested that I have borrowed my theory from Levret. After remarking the gross folly I should have been guilty of in quoting Levret, had I furtively adopted his opinions, it will, I trust, be sufficient for me unequivocally to

declare that my original ideas on the subject were derived solely from my own personal observations and experience; and that having previously neither read nor heard of the placenta being ever fixed to the os uteri, the knowledge of such a circumstance, derived as before observed, came to me, and impressed me, as a discovery. I was certainly afterwards struck with the coincidence of the sentiments of Levret and myself on the subject—with the similarity of our practical deductions; and, allowing for the difference of language, even with the sameness of our expressions. But is it extraordinary that two persons should have deduced the same conclusions from similar premises?

“In the present instance, where the inferences are so obvious, the contrary, as I have before remarked, is surely the more extraordinary—more extraordinary than other authors who have noticed the fact should not have deduced them. That Dionis, Mauriceau, Deventer, La Motte, Portal, Ruysch, Giffard, Smellie, Hunter, &c., whom I have quoted, as having found the placenta of the os uteri, should not have practically applied it, than that Levret or myself should have done it. I am further not reluctant to acknowledge that after reading Levret's Dissertation, I felt less entitled to the claim of absolute originality upon the subject; and I now rest perfectly satisfied to divide with him the credit arising from the mere circumstance of communicating a new physiological fact. But were I still denied all claim to originality, I should even not be without the satisfaction of having at least materially contributed to diffuse the knowledge of an important fact, and of having established its practical utility on the unequivocal testimony of experience; for, had I seen Levret's Dissertation sooner, or had even my attention been first directed to the subject by its perusal, ought it to have superseded my publication? Was the practice in this country at that time at all influenced by Levret's Dissertation? or has it even been translated into the English language? Was it at that time generally known that the attachment of the placenta to the os uteri was a frequent cause of hæmorrhage? and were any directions for our conduct in these cases, founded on the knowledge of this fact, given by those who then lectured on the art of midwifery? Levret's facts, moreover, though they proved that the placenta might be originally attached to the os uteri (and a single instance would establish this), were scarcely sufficient to prove the frequency of its occurrence, from which alone arises the necessity of practically attending to it in every case of hæmorrhage. His observations (perhaps even more credi-

table to him for being founded on such scanty materials), were derived from four cases only; and of these, two were under his own immediate cognizance; whereas, in the first edition of this Essay, my opinions were supported by thirty-six detailed cases, in thirty-three of which the placenta was found at the os uteri, and in the fourth edition the number was increased to 106, forty-three of which were produced by this peculiar original situation of the placenta." (Preface to fifth edition, p. 12).

If my father could have been supposed to have written these remarks *expressly* for the object of refuting so unjust a misrepresentation, they could not have been better adapted to the purpose.

With respect to Dr. Hamilton's second charge, viz. that Dr. Rigby's "inferences have led to very serious errors in practice," and that as to his view of the subject, "every member of the profession can bear witness to its inaccuracy," I will not attempt to answer it, but will confidently appeal to the whole profession (with the exception of himself and compatriot), and ask whether the inferences which my father has drawn, and the rules for treatment which he has laid down in his Essay, are not the most accurate, simple, and valuable, which have ever been published on the subject?

Hoping, from your well-known high sense of justice, that you will permit the insertion of these observations, and that I have not occupied too much of your valuable columns, I am, sir,

Your obedient servant,

EDWARD RIGBY,
Physician to the General
Lying-in Hospital, &c.

18, Parliament-Street,
April 18, 1837.

[We scarcely think that a journalist ought to be required to insert papers so entirely controversial. One paragraph we have omitted, being a charge against a second party, unsubstantiated by any quotation or other evidence.—E. G.]

BLEMISHES IN THE MEDICAL DEPARTMENT OF THE NAVY.

To the Editor of the Medical Gazette.

SIR,

A SHORT time ago, while looking over some of the numbers of your journal, a letter from one of your correspondents, complaining of the treatment which the assistant-surgeons of the royal navy receive, attracted my notice; and, on inquiry, I have found that the grievances of

which he complains really do exist. Yes, strange though it may seem to be, a medical gentleman when he enters the naval service is, as your correspondent states, compelled to degrade both himself and the profession to which he belongs. As soon as he joins a ship, he finds that no kind of provision is made for his comfort or accommodation. He finds that young marine officers, just come from school, with but very slender pretensions either to literary or philosophical learning, are at once admitted into the ward-room, but that he himself, after having received the benefit of a liberal and expensive education, is to be pushed down into a dirty cockpit, and to be looked upon, by the lieutenants and others, as little better than their boat-swains, gunners, and carpenters; the consequence of which is, that many of the best informed assistant-surgeons become sick of the navy, neglect their profession, and speedily lose much of the knowledge which they possessed at the time they entered the service. Of this the Admiralty are not ignorant; and, by way of a remedy, they some years ago put in force a regulation, which I believe still exists, whereby assistant-surgeons, notwithstanding they must each, before being admitted into the service, have undergone two examinations; one by the College of Surgeons in London, Edinburgh, or Dublin, and another by the Physician-General, are compelled, after having served three years, to submit to two more, making in all four, before they can obtain the certificates which are requisite to render them eligible for promotion.

And how are the two last of those examinations conducted? Why, an assistant-surgeon, after having served three years, is sent back to the very College of Surgeons, a diploma from which he has in his possession, in order that he may obtain, after another examination, a certificate showing that he still possesses a competent knowledge of anatomy and surgery. He is then directed to make his appearance at Somerset-House, for the purpose of being again examined upon the practice of physic, materia medica, &c, by the Physician-General. Now it must, I think, be obvious, that the Examiners at any of the above-mentioned Colleges cannot, with any thing like a good grace, at this second examination, reject a person who, three years before, received from them the very highest testimonial of qualification which it was in their power to bestow. If they were to do so, it would be very much like admitting that their diplomas are worthless; an admission which, I presume, none of our Colleges will ever willingly make. Any examination, therefore, of this description, must necessarily, in most cases,

be a mere farce. How much better, then, would it have been, if the Admiralty, instead of having recourse to so lame an expedient as the above, had made the assistant-surgeons ward-room officers; a favour (if it may be so called) which their profession and acquirements well entitle them to receive, and which, if it had been graciously granted, would not only have prevented the naval assistant-surgeons from retrograding, but, on the contrary, would have induced them to follow their professional pursuits with an ardour, the good effects of which would soon have been felt by the service.

They manage things very differently in the army, however. When a medical gentleman enters that service, he is treated with due respect. Instead of being put into a place like the cockpit, he is permitted at once to sit down at the same table with his superior officers, and although his promotion may be slow, yet, when it does come, the whole of the time which he may have served as an assistant-surgeon is reckoned, which is not the case in the navy, so that he has the satisfaction of knowing, that after spending the best of his days in the service of his country, something like a respectable provision will be made for him in his old age.

Why are the assistant-surgeons of the navy differently treated? Is it because they are not so well qualified as their professional brethren in the army, that the above privileges are withheld from them? No; the assistant-surgeons of the navy are inferior to no class of medical men in point of professional acquirements, as the course of study which is required, and the examinations to which they must submit, clearly prove. Is it, then, because the duties which they have to perform are less valued by the country? No, this can never be the case, so long as the tars of Old England, whose health and lives it is the duty of the naval assistant-surgeons to endeavour to preserve, are held in remembrance by the people for whom, in by-gone times, they so often fought and bled; and I may observe, that when a case of difficulty occurs in the army, a consultation with some of the highest medical officers in that service may often be had recourse to, which removes a vast deal of responsibility from the army assistant-surgeons; but when a ship is on the bosom of the stormy ocean, whatever may happen, the officers and men must trust entirely to the professional knowledge of the medical gentlemen who are on board. Surely, then, instead of treating those gentlemen with disrespect, every comfort, accommodation, and encouragement, which the nature of the service will admit of, ought to be held out to them; and until the assistant-surgeons, whose duties are

often very weighty and important, are removed from the cockpit, and placed upon a footing with their brethren in the army, it cannot be expected that they will be satisfied.

Your correspondent, whose letter has led to the above observations, naturally applies to the Physician-General; but, although Sir W. Burnett has assuredly the interest of the medical department of the navy sincerely at heart, it unfortunately happens that he possesses at present but very little power. The assistant-surgeons of the navy, if they wish their grievances to be redressed, ought, therefore, to take their cause into their own hands. They ought, by every possible means, to promulgate to the world the degrading situation in which they are placed, in order that the parents of young medical gentlemen may know what their sons, after being liberally and expensively educated, are to expect if they enter the naval service. They ought also, without delay, to bring their case before the legislature, which certainly might, in some way or other, be effected; and if, after that, nothing be done for them, it requires not the tongue of a prophet to foretel that it will soon be found necessary wofully to lower the standard of professional qualifications, in order to prevent his Majesty's ships and vessels from being compelled to go to sea without assistant-surgeons at all. It is because the treatment which those officers receive is not generally known, that so many well-educated medical gentlemen are found ready and willing to enter the navy. If they only were aware of the degradation that there awaits them, they would (until some change be made) look with contempt upon such a service, and direct their attention to something else which is more consistent with the respectability of the profession to which they belong.

I shall now conclude by observing, that the assistant-surgeons of the British navy well deserve the support of all who are in any way connected with the medical profession; and as the treatment which they at present receive renders the hammocks in which they are compelled to sleep any thing but beds of roses, if you will espouse their cause, and publish the above observations in your influential journal, you may in that way be instrumental in bringing their case under the notice of some who may have both the power and the inclination to serve them: at all events, by so doing, you will confer a very great favour upon many, who, like the writer of this letter, are your admirers and constant readers.—I have the honour to be,

Sir,

Your most obedient servant,

OBSERVER.

April 26, 1837.

CASE OF LITHOTRIPSY.

INABILITY TO WITHDRAW THE INSTRUMENT FROM THE URETHRA.

J. B. MOUCHERARD, aged 57, of good constitution, and of no trade, was admitted into the Hôtel Dieu under M. Roux, with symptoms of stone in the bladder, which he had experienced for nearly a year. He was sounded, and the stone felt; on which it was resolved to perform the operation of lithotripsy. The first seven operations were successful, the stone each time being laid hold of and crushed; but, at the eighth time, the operator laid hold of a fragment with the *brise-pierre*, and tried to extract it whole through the urethra, instead of crushing it, when, on coming to the spongy part of the urethra, the instrument became fixed, so that it could not be moved either backwards or forwards. As it was necessary to extricate the instrument, the surgeon resolved at once to make an incision, like a button-hole (*boutonnière*) of the penis, and executed it with his usual skill, at the spot where the point of the instrument was felt. He extracted the fragment by this opening, after which he was able to withdraw the instrument. The calculus was found firmly fixed in the opening of one of the branches. The patient remained in the hospital for about ten days, after which he left it, not choosing to submit to another operation, and probably retaining in his bladder some remains of the calculus.

We ought not, then, in lithotripsy, to try to extract a fragment without first crushing it; for the instrument cannot be withdrawn from the bladder unless it is perfectly closed; and in order to withdraw it without injuring the parts, we are instructed first to replace the hammer. Students who practise lithotripsy are aware of this; for in the dead body, whenever they try to withdraw the *brise-pierre* partly shut, or not completely replaced, it is always stopped in the passage of the urethra. This practice can only be justified in a certain degree when the operator employs the pincers having three branches; and then he must be sure that the fragment is not large. As to the artificial opening in the penis, we cannot tell beforehand whether it will heal without leaving a fistula or not. The accident of M. Roux will shew the importance of disengaging the instrument before withdrawing it. A similar accident happened at Berlin a few years ago, and we believe the writer might have added, in London also.—*Gazette des Hôpitaux*.

REMARKS

ON

THE PHOSPHORESCENCE OF ORGANIZED BEINGS.

BY M. DE ROLANDIS.

PHOSPHORESCENCE in organized beings has always been an object of interest to physiologists and naturalists. Several years ago Tiedemann published some curious researches on this subject, and M. de Rolandis has now made some additional observations.

Organized bodies may be luminous either in the state of life or in that of death. In either case phosphorescence can only exist at a certain fixed point of temperature. Phosphorescence is dissipated by great heat and by great cold. In wood and in the roots of plants, phosphorescence is only observed when they begin to decompose, when exposed to a mild temperature, to moisture, and to the atmospheric air; it is made to disappear by desiccation, or hot water. Tiedemann believes that during the decomposition of wood there is formed a highly inflammable compound of carbon, hydrogen, and oxygen, which burns like phosphorus at ordinary temperatures. M. de Rolandis thinks it likely that phosphorus itself is also developed, as it has been shewn that the cinders of many trees, when burnt, contain phosphate of lime.

Dead bodies, both of men and of animals, often present the phenomena of phosphorescence, and fishes do so especially. In them phosphorescence usually appears a day or two after death, when they are exposed to moist air, or to oxygen gas, at the temperature of from 12° to 18° Reaumur. There is then seen on the surface of fishes a substance, transparent, liquid, and mucilaginous, which soon becomes slightly muddy, luminous, and firm. If this substance be removed by washing, the water employed also becomes luminous. If we place the fish in a vessel of glass full of water, we immediately see a bright circle on the surface of the liquid. If we shake it, the water becomes luminous, the luminous principle disappearing for an instant, to reappear on the surface as soon as the air comes to the top.

Phosphorescence is equally observed in the two living kingdoms of nature. Nothing is more common than to observe, on some warm and calm summer nights, sparks emitted from the flowers of different plants, such as cresses, the dictamnus

albus, &c. We see a kind of sparkling atmosphere around these plants, which inflames on a candle being brought near them, and which burns with a fine blue flame. This phenomenon is explained by supposing the emanation of a combustible substance from the surface of the plant, such as volatile oil, which inflames on contact with the atmosphere.

A great many aquatic animals are phosphorescent; most marine zoophytes, several crustacea, different mollusca, and fishes are of the number. The phosphorescence of the sea is, as is well known, owing to their presence.

A number of insects and worms, which live in the open air, enjoy the same property: the lampyrus nocteluca is familiar to all. The light emanating from the body of that creature is of a light blue, or rather greenish colour. It seems to encircle the whole body of the insect. The light emitted by the male is less intense, and a very light blue; that of the female is like the topaz. This light, when most intense, is strong enough to enable us to see the hour on a watch.

Another insect, the lucignola, affords two kinds of light, one weaker than that of the glow-worm, and which steadily emits sparks, which are rapidly extinguished. The other is much more intense than that of the glow-worm, or of any other animal, and is intermittent. This last circumstance would lead us to suppose that there is, as it were, a sort of thin membrane, which passes every instant over the surface of the luminous organ.

Phosphorescence usually begins at twilight. At that time we see here and there some luminous points, the number of which progressively increases. If the phosphorescent insects are in a dark corner, they begin to shine before night-time. If they are exposed to artificial light when their phosphorescence is fully developed, their brilliancy gradually diminishes; but they regain it on being replaced in darkness. Their phosphorescence disappears every morning when the sun rises. These insects do not shine at night, unless they have been unexposed to the rays of the sun during the day.

We know nothing distinctly as to the formation of the phosphorescent principle in animals. According to Tiedemann it depends on a change in the composition of some humours secreted by them; but we know nothing of these humours, or their nature; and the existence of any such secreting organs is only hypothetical. M. de Rolandis looks on phosphorescence merely as a physical phenomenon, as it is usually observed in dead bodies a few days after

death. We have still to discover what influence the shining principle has on the life of the animal, and whether such influence is constantly exerted. — *Gazetta Eclettica di Chimica Farmaceutica e Medica di Verona*.

CASE OF THREE ACUTE CUTANEOUS ERUPTIONS

AT THE SAME TIME.

M. R. MASSA, aged 34, of a bilio-sanguine temperament and vigorous constitution, was seized with fever of catarrhal appearance, at a time when small-pox was raging epidemically in the country. Bleeding, and a refrigerating drink, were prescribed, which relieved him much, the fever abating considerably. Four days afterwards traces of purpura hæmorrhagica showed themselves on his face, on his hands, and especially on his thighs. The tongue was covered with a yellow fur, and the patient felt a desire to vomit. Ipecacuanha was prescribed, and he vomited a quantity of bile, and passed seven lumbrici per anum, with some relief.

On the fifth day from the appearance of his complaint, a variolous inflammation showed itself on his face, hands, and chest, in the form of dark points: intense pain in his throat, with difficulty in eating. Supposing that the variolous eruption was caused by the irritation of worms in the intestines, an anthelmintic draught was given. The patient became delirious at night.

On the sixth day, a few small variolous pustules appeared, and near these pustules were observed very red irregular spots, having all the characters of scarlatina. The fever was moderate. The seventh day the fever was intense: acute inflammation of the tonsils, and the tongue and the interior of the mouth were covered with a white mucus; a disturbed night, and ptyalism. Eighth day, the eyes injected; tongue very loaded; delirium and incoherence of ideas. The three eruptions were very distinct: the purpura on the thighs and legs; the scarlatina and variola on the face, the neck, the chest, the arms, and the hands. Leeches were applied behind the ears; he was blistered; James's powder and calomel were administered internally. Violent delirium. Ninth day, saliva flowing from his lips; breath very foetid. A strong decoction of bark with acetate of lead was prescribed, but refused by the patient.

The tenth day, stupor, coma; and death the night after. There was no post-mortem examination.

Dr. Spadafora says that he has several times met with the acute triple eruption above described, during the epidemic prevalence of the small-pox; and that in every instance the cases proved fatal. Two of his medical friends have observed the same fact.—*Il Filiatre-Seberio*.

OBSERVATIONS

ON THE

BEST MODE OF DEMONSTRATING
THE INTERNAL STRUCTURE
OF THE HEART,AND ON THE SEPTUM OF THE AURICLES
IN MAN.

BY PROFESSOR RETZIUS.

WITH a view to obtain a more instructive representation of the heart in its natural state than has hitherto been done, the author has for some time pursued the following method, which exhibits the cavities and the situation of the valves in a distinct and correct manner. The heart having been removed from the subject, in connexion with the liver, the *venæ cavæ*, the aorta, and the lungs, and having been properly freed from blood by injections of water, is steeped in a mixture of oil of turpentine and spirits of wine. The cavities are then amply injected through the pulmonary and superior *venæ cavæ*, the aorta, and the pulmonary artery, with a mixture of white wax and oil of turpentine. As soon as the mass is firm, the heart, together with the great vessels, is separated from the rest, the extremities of the vessels are tied, and the preparation, having been cleaned with the scalpel, is left to dry. When thoroughly dried, it is macerated in spirits of turpentine, till the wax is softened or entirely dissolved. In this manner the heart and arteries are emptied after the walls have dried over the wax forms, which were true casts of the natural cavities, their septa and valves, &c. The parietes themselves, being impregnated with turpentine, lose little of their natural thickness. The parietes may now be either cut open or rendered transparent with the aid of resins, so that the internal structure can be examined. Another method of preparation, somewhat less advantageous, is to open the auricles, ventricles, and blood-vessels, then fill them up with cotton, or to leave them unopened, but to fill them with proof spirit, afterwards suspending them in the same medium. The

water contained in the heart's tissue is attracted by the spirit; the walls thus become stiffened, and retain their form even after the alcohol has been removed. Preparations of this kind are to be met with in Hunter's museum.

On examining a heart thus prepared, the first observation we make is, that the left auricle forms an oblong pouch, having almost a horizontal position, its right extremity encroaching upon the domain of the right auricle, the situation of which is nearly vertical. At the point where the two pouches meet, the septum of the auricles develops itself with its inferior portion almost lying across the mouth of the *vena cava*. This is the exact spot which in the *fœtus* is occupied by the foramen ovale and its border, and the partition itself consists of the thickened valve, by the adhesion of which with the neighbouring parts the foramen ovale was closed up. The upper part of the septum forms the imperfect septum auricularum in the *fœtus*. If the right auricle be opened, the left being filled up, we discover a protuberance presented by the upper part of the border of the obliterated valve. This, together with the convexity formed above it by the septum, probably constitutes the tubercle mentioned by Lower.

The arrangement of the septum in its different parts has the greatest influence over the functions of the heart under the various circumstances of life. If the body be at rest, the blood flows gently from the lower parts into the right auricle, but if it be pumped up by hard breathing, as in those affected with dyspnœa, the influx becomes far more hurried. It is still more accelerated by an uninterrupted exercise of the muscles of the lower extremities, as the muscles then press on the parietes of the large veins, and thus force the blood onwards towards the auricle, whilst its retrogression is prevented by the valves. The curvature of the septum, the tendency of the circular muscles around the foramen ovale, and the curvatures at the entrance of the *venæ cavæ*, prevent the blood from penetrating from the inferior into the superior *venæ cavæ*, or *vice versâ*. If it were otherwise, apoplexy would easily occur in the former instance, and injurious effects on the liver in the second. — *Kgl. Wetensk. Acad. Handlinger.*; and *Brit. and For. Med. Rev.*

ON THE EFFECTS OF TANNIN.

M. CAVARRA has lately made some experiments on the physiological effects of

tannin in its pure state. He administered it to dogs to the extent of 12 grains, and himself took for three days running three pills, each of $2\frac{1}{2}$ grains. In both cases obstinate constipation was the only effect produced. He killed a dog to whom he had given it, and found the mucous surface of the intestines dry, and the faecal matter hard and collected in the colon, the membrane of which, when examined with a magnifying glass, displayed a remarkable closing of the pores and villi. M. C. has successfully treated with pure tannin six cases of diarrhoea, twenty-three cases of leucorrhœa, and five of pulmonary catarrh, with some cases of hæmoptysis, hæmorrhage from the rectum and vagina, and a few of gonorrhœa. He administered it either in the form of pills or of a solution.

—*Revue Therapeutique.*

ON THE USE OF INDIGO IN ERYSIPELAS.

INDIGO was first employed as a therapeutic agent in the treatment of epilepsy, by Lenhossek, and afterwards by Grossheim and others. Its efficacy was afterwards tried by Ideler, a Prussian physician; and among twenty-six patients, in whom indigo was experimentally tried, six individuals recovered completely; three were dismissed cured, who had after intervals of from eight to twelve months a relapse, under the operation of causes which might have induced epilepsy; of eleven patients, the condition underwent an essential improvement; and in six individuals no change took place. At first, the patients were wont frequently, though without effect, to vomit; after some days this ceased, and in its place, there took place diarrhoea, which at first caused from six to eight motions daily, and was occasionally accompanied with moderate colicky pain, but afterwards moved the bowels only two or three times daily, but with fluid motions, and continued so long as the indigo was used, but without impairing the appetite or digestion. The curative reaction of the nervous system upon the agent was principally indicated by this circumstance, that the epileptic symptoms in the first period returned more frequently, and attained a higher degree of intensity, but afterwards became less frequent, milder, and at length entirely disappeared.

Most usually the indigo was exhibited in the form of electuary, with a proportion of the aromatic powder, because,

alone, it is very disagreeable to the patient. At first it was administered in the dose of one scruple; this was quickly increased to a drachm and more, so that daily from half an ounce to one ounce might be used for a series of months without difficulty.

In a paper in Graefe and Walther's Journal, entitled Contributions to Casuistics, by D. Moritz Strahl, of Berlin, are some observations on the operation of the same remedy in spasmodic diseases. In the trials made by Dr. Strahl with this agent, in ten cases of inveterate epilepsy, in which it was given in progressively increasing doses, of from one scruple three times a-day, to half an ounce daily for the space of ten weeks, it produced not the smallest effect. During its employment the stools became blue, and the urine assumed a dark green colour. Excepting slight inconvenience of the stomach, no operation of the remedy upon the organism could in general be observed. On the other hand, indigo, in four hysterical females, one of whom was already in the age of decrepitude, evinced the presence of very remarkable phenomena. In all, after about two drachms daily had been taken, violent pain in the region of the kidneys, like colic, took place; the urine assumed a deeper intensity of colouring than in male patients, and at the bottom of the vessel was observed no trifling quantity of fine indigo powder. The intense renal pain continued for four days, and at length subsided under the continued employment of an oily emulsion. In one case only did there ensue a remission of the spasms, and the patient was not entirely well three months after the cure was completed. The operation of the indigo, further, on the womb, was very remarkable, since, in two cases, an amenorrhœa was radically cured, while the spasms were throughout undiminished. In two cases of St. Vitus's dance, in a boy of 12 and a girl of 9 years, the indigo was throughout unavailing.

The different clinical trials made with indigo by Dr. Roth, furnished the following results. In epileptic cases, the remedy evinces almost always the same immediate operation; but its subsequent consequences are regulated by the degree of vitality of the nervous system of the patients, and the kind and duration of the epilepsy. These effects are beneficial in all idiopathic epilepsies, curative in those of this class which have not been of long continuance; and in very chronic idiopathic epilepsies, indigo diminishes the violence and the frequency of the paroxysms. Of symptomatic epilepsies, only a few are

alleviated by the use of indigo, none are cured.

Physiological operation of indigo.—In almost all patients, the use of indigo is succeeded first by squeamishness and vomiting, though the substance itself be tasteless and inodorous. The violence of the emetic efforts appears to be regulated by the individual irritability of the gastric nerves of the patients. Females vomit more readily than males. The vomiting is at first continuous, that is, during the continued use of the agent, and often so violent that the indigo must be given up; but after several days it ceases. It has otherwise the peculiarity that the contraction of the abdominal muscles and the diaphragm is much less violent, and the debility is less considerable than after vomiting induced by other means. The contents of the stomach present nothing unusual, even in respect to taste, only they are of a very dark blue colour, and the fluid is intimately mixed with the indigo, from which it may be inferred that the gastric juice contributes very much to the digestion of the indigo.

Diarrhœa, the second physiological effect of indigo, takes place in general first when the vomiting ceases; yet from this many patients remain altogether exempt. In general, diarrhœa, when once commenced, continues as long as the patients take the indigo, and increases in intensity during the continued use of the remedy. The motions are generally soft, semifluid, and of a dark blue-black colour. The vomiting and diarrhœa are frequently accompanied with slight colicky pains in the stomach and bowels, which, however, may be so violent as to require the indigo to be given up. Those patients who are exempt from vomiting appear to be attacked with more violent colicky symptoms. By the continued diarrhœa there is formed a species of gastrosis (irritation of the mucous membrane of the stomach and bowels), with loss of appetite, headache, and giddiness, and sometimes the sense of dazzling lights in the eyes.

The third physiological operation of indigo is seen in the urinary secretion. The urine assumes a dark violet colour, deepest in the morning. On the quantity of the urine the agent seems to exercise no influence.

Dr. Roth did not observe coloration of the sweat. But it is remarkable, that one patient, after the use of indigo for several weeks, fell often into slight convulsions, similar to those which ensue on the employment of the nitrate of strychnia.

The dose of indigo is regulated by the

irritability of the stomach. It is best to begin with grains, and rise gradually to drachms, or even several ounces daily. Dr. Roth gives the preference to the form of electuary, with proportional additions of the aromatic powder, or Dover's powder, as correctives. In the formula employed in the Hospital of the *Charité*, at Berlin, half an ounce of powdered indigo, rubbed up with a few drops of water, is mixed with half a drachm of aromatic powder, and one ounce of simple syrup, and to be taken in divided doses in the course of the day. Many even take from a half to two ounces, twice and four times daily for the space of several months.

In what manner indigo operates, and to what class of medicines it belongs, is very difficult to determine, and certainly cannot be inferred from its constituent parts. Probably its active principle is seated in the peculiar colouring matter. Though in many respects the operation of indigo is similar to that of tartar emetic, yet this attacks more forcibly the energy of the organism. In all the patients after the use of the indigo the spasms were at first more frequent and more intense, but shorter in duration; but after some weeks their intensity was manifestly abated, and at length they entirely disappeared. All the patients cured by indigo laboured under idiopathic epilepsy, that is, epilepsy without symptoms of organic lesion. Among those who were improved were several idiopathic and symptomatic cases. In one case of epilepsy, which ensued after a remarkable contusion of the head, after the employment of indigo, a moderately long intermission took place. A boy of 16 years of age, who had laboured for eight years under St. Vitus's dance, and then was attacked with epileptic spasms, was cured of all the symptoms by the use of indigo for six weeks. Of twenty-six epileptic patients treated by means of indigo, there recovered—four males and five females; three males and eight females were improved; and four males and two females remained uncured. In confirmation of the foregoing inferences, the author communicates the history of two cases, in which the treatment by means of indigo operated beneficially, after other means had been found unavailing*.

* Edinburgh Medical and Surgical Journal, from the "Neue Wissenschaftliche Annalen."

TABLE III.—LEPIDOPTERAL LARVÆ PRODUCING SCOLECHIASIS.

Family and Genus.	Larval Species.	Authority.	Country.	Reference.	Figured or not.	Local Affec.	Sex.	Age.	Result.
PAPILIONIDÆ.									
....	Brassica, Lin.	R. Calderwood, surgeon.	Dalkeith, Scot- land.	Med. Commen- taries, vol. ix. p. 223.	....	Alimentary canal.	Male.	Young boy.	Recover- ed.
NOCTUIDÆ.									
<i>Noctua</i> .	Larvæ of.	Dumeril.	France.	Annales des Sciences.	....	....	....	....	....
....	Several larvæ.	Dr. Martin Lister.	England.	Phil. Trans.	....	Stomach.	Male.	Boy.	....
<i>Crambus</i> .									
1.	Pinguinalis.	Linnæus.	Sweden.	....	....	Stomach.	....	....	....
2.	Pinguinalis, larvæ of.	Mr. Church.	England.	Good's Study of Medicine, vol. i. p. 307.	....	Stomach.	....	....	....
3.	Ditto, larvæ of.	Fulvius Ange- linus.	Ravenna.	Kirby & Spence Ent. vol. i. p. 135.	....	Nostrils.	Male.	Youth.	....
<i>Phryganea</i> .									
	Grandis.	Mr. Church.	England.	Good's Study of Medicine, vol. i. p. 307.	....	Stomach.	Female?	Child.	....

OF

With their Prices and several Duties.

(From the Official Returns up to Tuesday, April 25, 1837.)

	PRICE.						DUTY.	DUTY PAID		
	In 1837 to last week.			Same time last year.						
	£	s.	d.	£	s.	d.	s.	d.		
Aloes, Barbadoes, D.P. c	12	0	0	to 30	0	0	} B.P. lb 0 2	}	31,165	35,579
Hepatic (dry) BD..... c	5	0	0	14	0	0					F. lb 0 8
Cape, BD. c	1	10	0	1	16	0	F. lb 1 4		251	436
Aniseed, Oil of, German, D.P.... lb	0	9	0	0	9	6	E. I. 1 4		392	31
E. I. lb	0	7	0	0	7	6	c 6 0			56
Assafoetida, B.D. c	0	2	10	0	5	0	lb 0 1		401	11,52
Balsam, Canada, D.P. lb	0	1	3	0	1	4	c 4 0		76	105
Copaiba, BD..... lb	0	2	7				lb 1 0		224	929
Peru, BD. lb	0	5	0				c 4 0		32	28
Benzoin (best) BD..... c	25	0	0	50	0	0	c 1 0		236	111
Camphor, unrefined, BD..... c	9	0	0				lb 1 0		9,012	5,739
Cantharides, D.P. lb	0	5	9				lb 4 0		585	794
Carraway, Oil of, D.P. lb	0	9	0				lb 0 1		2,096	3,313
Cascarilla or Eleutheria Bark, D.P.C.	1	15	0				lb 1 4		920	2,668
Cassia, Oil of, BD..... lb	0	9	0				c 1 3	} 2,219	2,446	
Castor Oil, East India, BD lb	0	0	6	0	0	10				
West I. (bottle) D.P. 1½ lb	0	2	3				lb 0 6		147	668
Castoreum, American lb	1	15	0				c 1 0		10,751	2,870
D.P. Hudson's Bay lb	1	0	0	1	4	0	lb 0 1		65,296	25,155
Russian..... lb				none			lb 0 2		3,551	6,119
Catechu, BD. c	1	0	0				lb 0 2		7,304	4,915
Cinchona Bark, Pale (Crown).... lb	0	2	0	0	3	6	lb 0 6		12,408	10,405
BD. Red lb	0	3	0	0	6	0	c 4 0		37	40
Yellow lb	0	1	6				c 4 0		301	27
Colocynth, Turkey lb	0	2	6	0	4	0	c 6 0		16	
D.P. Mogadore lb	0	3	0				} c 6 0	}	1,498	3,972
Calumba Root, BD. c	1	4	0	2	5	0				
Cubebs, BD. c	3	0	0				c 6 0		708	1,066
Gamboge, BD. c	5	0	0	15	0	0	c 6 0		173	997
Gentian, D.P. c	1	4	0				c 6 0		124	50
Guaiacum, D.P..... lb	0	1	0	0	1	8	lb 0 1		810	774
Gum Arabic, Turkey, fine, D.P... c	8	0	0	9	0	0	lb 1 0		5,340	3,227
Do. seconds, D.P. . c	5	0	0	7	0	0	lb 0 6		18,669	16,626
Barbary, brown, BD. c	3	19	0				lb 0 3		12,900	5,230
Do. white, D.P..... c	4	15	0				oz 6 0		475	459
E. I. fine yellow, BD. c	3	0	0	3	10	0	c 6 0		61	66
Do. dark brown, B.D. c	1	15	0	2	5	0	lb 2 6		509	719
Senegal garblings, D.P. c	4	15	0	5	0	0	lb 1 0		11,759	12,717
Tragacanth, D.P. c	13	0	0	20	0	0	lb 4 0		461	167
Iceland Moss (Lichen), D.P. lb	0	0	2½	0	0	3	lb 0 1		79,705	100,100
Ipecacuanha Root, B.D. lb	0	3	0				lb 1 0		11,155	16,423
Jalap, BD. lb	0	1	10				} F. lb 1 0	}	3,182	2,760
Manna, flaky, BD. lb	0	5	0							
Sicilian, BD. lb	0	1	7				lb 1 0		2,206	1,815
Musk, China, BD. oz	1	0	0	1	8	0	lb 0 6		33,460	39,311
Myrrh, East India, BD. c	5	0	0	14	0	0	lb 2 6		3,600	3,279
Turkey, BD..... c	2	0	0	11	10	0	E.I. lb 0 6		31,582	29,755
Nux Vomica, BD..... lb	0	8	0	0	9	0	} Other sorts 0 6	}	25,584	22,657
Opium, Turkey, BD. lb	0	15	0	0	16	0				
Peppermint, Oil of, F. BD..... lb	1	0	0							
Quicksilver, BD. lb	0	3	8							
Rhubarb, East India, BD..... lb	0	2	0	0	3	6				
Dutch, trimmed, D.P. lb	0	3	6	0	4	6				
Russian, BD. lb	0	8	3							
Saffron, French, BD. lb	1	1	0							
Spanish lb	1	1	0							
Sarsaparilla, Honduras, BD..... lb	0	1	0	0	1	9				
Lisbon, BD. lb	0	2	0							
Scammony, Smyrna, D.P..... lb										
Aleppo lb	0	12	0	0	15	0				
Senna, East India, BD. lb	0	0	3	0	0	4				
Alexandria, D.P..... lb	0	1	6							
Smyrna, D.P. lb	0	1	0	0	1	3				
Tripoli, D.P. lb	0	1	0	0	1	3				

†§† BD. In Bond, — c. Cwt. — B. P. British Possessions. — F. Foreign. — D. P. Duty paid.

LUDWIGSBRUNNEN WATER.

(From a Correspondent.)

THIS water, which has recently been imported by M. Sarg, the great wine-merchant of Frankfort, has all the agreeable qualities of Seltzer water, without any of its iron. It is the coolest beverage I know, and is half the price of the other mineral waters. It acts powerfully on the kidneys, and lightens digestion. It has 39 cubic inches of carbonic acid in the pound of water, and so closely combined with it, that though the flagon may have been uncorked for several days, the water does not lose its fresh and quickening flavour from the exposure. It is after you have swallowed it that the heat of the stomach develops and disengages the gas.

This spring of mineral water is situated within a couple of miles from the Seltzer spring. It contains in the pound of water,—

	Grains.
1. Muriate of soda	16
2. Muriate of magnesia	$1\frac{1}{20}$
3. Sulphate of soda	$\frac{11}{20}$
4. Carb. of potass	$\frac{10}{20}$
5. Carb. of lime	$12\frac{10}{20}$
6. Carb of magnesia	$4\frac{8}{20}$
7. Silex	$\frac{3}{20}$
	$35\frac{3}{20}$

So that there are $35\frac{3}{20}$ grains of solid matter, and 39 cubic inches of gaseous, in the pound of water.

AN ELECTRICAL CHILD.

A YOUNG woman, of Doway, lately gave birth to an infant which communicated an electrical shock to the accoucheur, similar to that which results from the torpedo. The child was of the male sex, and of robust appearance. He was placed, immediately after birth, in a cradle, supported by non-conductors of glass; and, thus isolated, afforded unequivocal signs of accumulated electricity. This remarkable property was retained for twenty-four hours, to so great an extent that the medical man was able to procure sparks—to charge a Leyden phial, and to perform a variety of other experiments.—*Liberal du Nord.*

INTERMITTENT EPISTAXIS,

CURED BY QUININE.

A STRONG man, æt. 27, suffered on alternate days from very violent bleeding at the nose, which continued from four to six

hours, and could neither be put a stop to nor alleviated by the common styptics, nor by any of the other means which are usually employed in similar cases. Regarding the periodicity of the occurrence of the bleeding the treatment was changed, and a large dose of quinine, with diluted sulphuric acid, was administered. During the twenty-one days following the bleeding recurred but twice, and was then readily stopped. The patient subsequently continued quite well.—*Medicinische Zeitung*, No. 34, 1836.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Apr. 25, 1837.

Abscess	2	Gout	1
Age and Debility	59	Hooping Cough	15
Apoplexy	9	Inflammation	31
Asthma	12	Bowels & Stomach	2
Cancer	1	Brain	5
Childbirth	3	Lungs and Pleura	6
Consumption	63	Influenza	9
Constipation of the		Insanity	4
Bowels	1	Liver, diseased	4
Convulsions	39	Measles	6
Croup	2	Mortification	4
Dentition or Teething	7	Paralysis	5
Dropsy	16	Rheumatism	2
Dropsy in the Brain	15	Small-pox	4
Dropsy on the Chest	1	Sore Throat and	
Epilepsy	1	Quinsey	1
Fever	10	Unknown Causes	12
Fever, Scarlet	5		
Fever, Typhus	3	Casualties	3
Decrease of Burials, as compared with } the preceding week }			

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude $51^{\circ} 37' 32''$ N.
Longitude $0^{\circ} 3' 51''$ W. of Greenwich.

April.	THERMOMETER.		BAROMETER.	
Thursday . 20	from 23 to 55		29.76 to 29.76	
Friday . 21	22	43	29.72	29.62
Saturday . 22	29	50	29.50	29.52
Sunday . 23	32	47	29.53	29.59
Monday . 24	29	57	29.61	29.72
Tuesday . 25	24	56	29.80	29.83
Wednesday 26	39	62	29.76	29.77

Winds S. and S.W.

Except the evenings of the 20th and 22d, the 25th, and following day, generally cloudy, with frequent showers of rain: a little hail fell in the afternoon of the 22d.

Rain fallen, .6875 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

POOR LAW EVIDENCE.—In answer to "HUMANITAS," we beg to say that we cannot possibly occupy our pages with evidence published in the daily papers, and which would require an immense space. Whatever connected with the subject is calculated to interest our readers, we shall, however, take care they have.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 6, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXII.

IN this lecture I have to notice several comparatively unimportant families; and in the first place—

WINTERACEÆ.

Two substances obtained from this family require to be noticed—namely, Star Anise and Winter's bark.

Illicium anisatum.

This tree is a native of Japan and Cochinchina. It belongs to class *Polyandria*, order *Polygynia*, in the Linnean arrangement.

The fruit (the *anisum stellatum*, or star aniseed, of the shops) consists of a variable number (usually from six to twelve) of hard woody follicles, disposed in a star-like form; each containing an oval reddish seed. It has an odour analogous to that of the fruit of *Pimpinella Anisum*, but somewhat sweeter.

By distillation the fruit yields a volatile oil (*oleum badiani*, or oil of star anise), which possesses most of the properties of, and is often substituted for, the oil of anise.

This fruit is aromatic and carminative. It (as well as the oil) is used by liqueur-makers. It might be employed as a sub-

492.—xx.

stitute for the ordinary anise (*Pimpinella Anisum*).

Drimys Winteri.

William Winter, captain of one of the ships which accompanied Sir Francis Drake, in the year 1578, to the straits of Magellan, returning in 1579, brought the bark of some trees he had cut down there to Europe. From this circumstance, Clusius called it *Cortex Winteranus*.

The *Drimys Winteri* is an evergreen tree, rising 40 or 50 feet high, a native of the southern part of South America, growing along the straits of Magellan, as far north as Chili: it is also found in the Brazils and New Granada. It belongs to class *Polyandria*, order *Tetragynia*, of the Linnean arrangement.



FIG. 175.—*Drimys Winteri.*

The bark (called *Winter's bark* in the shops) occurs in quills, or rolled pieces, commonly a foot long, one or two inches in diameter, and two or three lines thick. Its colour is pale yellowish or reddish grey, with red elliptical spots. Its odour is aromatic, its taste warm and pungent.

This bark consists of volatile oil, resin, tannic acid, colouring matter, several potash salts, malate of lime, and oxide of

iron. The presence of tannic acid (known by the bluish-black colour produced by the ferruginous salts on an infusion of this bark) readily distinguishes it from *Canella alba*.

The effects of this bark are those of an aromatic tonic. It may be employed in the dose of half a drachm, or a drachm.

ULMACEÆ.

In this family we have only one officinal substance — namely, elm bark obtained from

Ulmus campestris:

a well-known indigenous tree, which rises to a considerable height.

Its stem is covered with a rugged bark, its branches are wiry, slightly corky, and when young, brown and pubescent; its leaves are rhomboid, ovate, acuminate, wedge-shaped, and oblique at the base, always scabrous above, doubly and irregularly serrated, downy beneath, the serrature incurved. The flowers are hermaphrodite, and consist of a campanulate, five-cleft, persistent calyx, five stamina, and a compressed ovarium, with two sessile stigmas. The fruit consists of oblong, compressed, deeply cloven, membranous, winged samaræ, each of which contains one exalbuminous seed.

This tree belongs to class *Pentandria*, order *Digynia*, in the Linnean arrangement.



FIG. 176.—(a.) *Ulmus campestris*. (b.) *Ulmus glabra*.

The smooth elm (*Ulmus glabra*) is a very abundant species in some parts of Essex, and is easily distinguished from the common elm (*Ulmus campestris*), by its smooth, dark, lead-coloured bark.

The officinal part of the elm is the inner cortical portion. To obtain it, the bark should be separated from the tree in spring, and after the epidermis and a portion of

the external cortex have been removed, the inner part should be quickly dried.

As met with in the shops, the inner elm bark consists of thin, tough pieces, which are inodorous, and have a brownish-yellow colour, and a mucilaginous, bitter, very slightly astringent taste.

The principal constituent of this bark is mucilage. Iodine detects starch, while the ferruginous salts show either tannic or gallic acid. According to Davy, 480 lbs. of elm bark contain 13lbs. of tannin. From 100 parts of the bark Rinck procured—

Resin	0.63
Gum and mucus	20.3
Impure gallic acid (tannic?)	6.5
Oxalate lime	6.3?
Chloride sodium	4.6
	<hr/>
	38.33

Ulmic acid: ulmin.—On many trees, especially the elm, there is not unfrequently observed an exudation, which is supposed to be a morbid production. When dried it consists of a mucilaginous matter, and carbonate or acetate of potash. By the combined agency of the air and the carbonate, the organic matter is altered in its properties, and is converted into a brown substance, which combines with the potash. This brown matter has been termed *ulmine*, or *ulmic acid*. It may be formed artificially by a variety of processes, as by heating a mixture of wood and potash, by the action of sulphuric acid on vegetable matters, and by other methods. This acid is composed of—

	Per centage composition.
30 atoms carbon .. 180, .. or	75.64
15 atoms hydrogen .. 15, .. or	4.7
15 atoms oxygen .. 120, .. or	37.56
	<hr/>
	315 99.90

Physiological effects.—Elm bark is demulcent and diuretic. It possesses also a slight degree of astringency, and therefore, besides its local operation, it will act on the system as a feeble tonic.

Uses.—It has been used in some skin diseases, particularly lepra; but it is a remedy rarely employed.

Administration.—It is usually given in decoction, a formula for which is contained in the Pharmacopœia. The dose is about four ounces, three or four times daily.

OXALIDEÆ.

I cannot at all comprehend the utility of keeping the

Oxalis Acetosella

in the Pharmacopœia, as it is very rarely, if ever, employed in medicine. As, however, the College have thought proper

to retain it in their list of the *Materia Medica*, it is my duty to notice it.

It is an elegant little plant, with ternate, inversely heart-shaped, hairy leaves, and handsome flowers, having five white petals veined with purple. It belongs to class *Decandria*, order *Pentagynia*, in the Linnean arrangement. Mr. Bicheno declares it to be the genuine shamrock. Its leaves abound with binoxalate of potash. In Switzerland and some parts of Germany this salt is obtained on the large scale from the wood sorrel: four parts are said to be procured from 500 of the plant. Hence the salt is termed *salt of wood sorrel*, or *essential salt of lemons*.—It is composed of

2 atoms oxalic acid.....	36×2	72
1 atom potash.....		48
2 atoms water.....	9×2	18
		138

This plant is a refrigerant. Taken as a salad, it is considered a good scorbutic. Infused in milk (to form whey), or in water, it forms a grateful drink in fevers and inflammatory cases. A solution of the binoxalate of potash is sometimes employed as a substitute for lemonade.

PIPERACEÆ.

From this order we obtain the peppers and cubebs.

Piper nigrum.

History.—Hippocrates employed pepper (*πέπερι*) in several diseases. Pliny alludes to its uses as a condiment, and expresses his astonishment that it should have come into such general use, since it has neither flavour nor appearance to recommend it. “*Quis illa primus experiri cibus voluit,*” says he, “*aut cui in appetenda aviditate esurire not fuit satis?*”

Natural history.—The pepper-vine is a native of the East Indies, and is cultivated in several parts of the East, as Java, Sumatra, and Borneo. The stem is from eight to twelve feet in length, is round, smooth, jointed, and dichotomous, the joints being



FIG. 177.—*Piper nigrum.*

swelled at each end: the leaves are alternate, petioled, obliquely ovate-cordate, acuminate, from five to seven-nerved. The inflorescence is a spadix of about three inches long; the fruit is a globular one-seeded berry, which, when ripe, is of a reddish-brown colour.

This plant belongs to class *Diandria*, order *Monogynia*, in the Linnean arrangement.

Preparation.—When any of the berries on a spadix change from green to red, the whole are considered fit for gathering; for if they are allowed to become fully ripe, they are somewhat less acrid, and moreover, easily drop off. When collected they are spread out and dried, and the stalks separated by hand-rubbing. The dried and shrivelled berries constitute the *piper nigrum*, or *black pepper*.

By a somewhat different mode of preparation we obtain what is termed in the shops *piper album*, or *white pepper*: it is the fruit of the same tree deprived of its external covering, and is thus prepared:—The berries being soaked in water, swell, and their external coat bursts; they are then dried in the sun, and the husks separated by friction and winnowing. Garcias, however, says the black and the white pepper are not the produce of the same plant.

Physical properties.—(a.) *Of black pepper.*—As met with in commerce, black pepper is round, covered externally with a brownish-black, corrugated layer (the remains of the succulent portion of the berry), which may be readily removed by softening it in water. Internally we have a hard, whitish, spherical, smooth seed, which is horny externally, but farinaceous internally. The taste of pepper (both of nucleus and covering) is acrid and hot.

(b.) *White pepper.*—As before mentioned, this is the fruit deprived of the external fleshy portion of the pericarp. The grains are spherical, whitish, and smooth, horny externally; internally they are farinaceous or hollow in the centre. It is less acrid and pungent than black pepper.

Chemical composition.—Several analyses, both of black and white pepper, have been made.

Black pepper (Pelletier).

Acrid soft resin.
Volatile oil.
Piperin.
Extractive.
Gum.
Bassorin.
Starch.
Malic acid.
Tartaric acid.
Potash, calcareous, and magnesian salts.
Woody fibre.

White Pepper (Lucä).

Acrid resin	16·60
Volatile oil	1·61
Extractive, gum, and salts	12·50
Starch	18·50
Albumen	2·50
Woody fibre	29·00
Water and loss	19·29
	<hr/>
	100·00

Lucä found no *piperin* in white pepper; but Poutet has subsequently detected it. Probably, therefore, in Lucä's analysis, the *piperin* was contained in the resin.

1. *Resin of pepper*.—This is a very acrid substance, soluble in alcohol and æther, but not in the volatile oils. It possesses in high perfection the acrid properties of pepper.

2. *Volatile oil of pepper*.—When pure this is colourless; it has the odour and taste of pepper. According to Meli, it possesses the same febrifuge properties as *piperin*, perhaps because it retains some of the latter principle. It has been used in dyspepsia.

3. *Piperin*.—This substance was disco-

vered by Oersted in 1819, but was more accurately examined by Pelletier in 1821. It exists in black, white, and long pepper, and also in cubebs.

It is a crystalline substance, the crystals being rhombic prisms, with inclined bases. It fuses at 212° F., is insoluble in cold water, and is only very slightly soluble in boiling water. Its best solvent is alcohol; the solution throws down *piperin* when water is added to it. Æther also dissolves this principle, but not so readily as alcohol. Acetic acid likewise is a solvent for it.

Piperin, when pure, is white; but as met with in commerce it is usually straw yellow.

Piperin was at first supposed to be an alkali; but Pelletier has shown it possesses no analogy with vegetable alkalies, but that it is related to the resins.

With strong sulphuric acid it forms a blood-red liquid: nitric acid colours it first greenish yellow, then orange, and afterwards red. The action of hydrochloric acid is similar.

The composition of *piperin*, according to both Liebig and Pelletier, is as follows:—

				Per Centage Composition
40 atoms carbon	40×6	240	=	70·95
22 atoms hydrogen		22	=	6·34
1 atom nitrogen		14	=	4·10
8 atoms oxygen	8×8	64	=	18·61
		<hr/>		<hr/>
1 atom <i>piperin</i> ..		340		100·00

Piperin has been recommended and employed by the Italians as a febrifuge in intermittent fevers. It is said to be more certain and speedy, and also milder in its action, than the cinchona alkalies. Moreover we are told it might be procured at a cheaper rate than sulphate quinia. Its dose is about six or eight grains, in powder or pills. Sixty grains have been taken in twenty-four hours, without causing any injurious effects. Meli considers two or three scruples sufficient to cure an intermittent. Magendie proposes it in blennorrhagia, instead of cubebs.

Physiological effects.—The local effects of pepper are those of a powerful acrid. These are well perceived when we apply it to the tongue. If kept in contact for some time with the skin it causes active inflammation, and brings out a crop of phlyctenæ. The remote effects of pepper are those of a stimulant. "I have seen," says Van Swieten, "a most ardent and dangerous fever raised in a person who had swallowed a great quantity of beaten pepper." Various other effects have been ascribed to this spice (such as excitement of the sexual organs, diuresis, flow of the menses, &c.),

but which either are accidental, or are simple consequences of the stimulant operation.

Uses.—The principal use of pepper is condimentary: it is employed partly for its pungent flavour, partly to stimulate the stomach and promote the digestive process, especially when substances not readily assimilable have been taken.

As a medicine, pepper is employed both for its local and constitutional effects. Thus, mixed with lard, we employ it in the form of ointment against tinea capitis. In relaxed uvula, paralysis of the tongue, and in any other affection of the mouth or throat requiring a powerful acrid, pepper may be employed as a masticatory. It may be mixed with mustard to increase the irritant effects of a mustard poultice.

Internally it has been employed in various diseases: thus in dyspepsia, as a gastric stimulant; given in spirit and water it is a popular remedy for preventing the return of a paroxysm of an intermittent fever. Barbier says, in some cases where large doses have been taken, death has occurred, in consequence, as he asserts, of some pre-existent gastritis, which was greatly increased by the spice.

A quack medicine, called "*Ward's paste*," whose active ingredient is black pepper, has gained considerable celebrity as a remedy for fistulæ, piles, and ulcers about the rectum. Its efficacy, doubtless, depends on the gentle stimulus it gives to the affected parts. It is, therefore, adapted to weak and leucophlegmatic habits, and is objectionable when much irritation or inflammation is present. "*Ward*," says Dr. Paris, "was originally a footman, and, during his attendance upon his master on the continent, obtained from the monks those receipts which afterwards became his nostrums."

The dose of pepper is from five or six grains to a scruple. The *confection of black pepper* is intended to be a substitute for *Ward's paste*; its dose is one or two drachms. Black pepper is a constituent of the *confection of rue*, which is employed as an antispasmodic in enemas. The *ointment of black pepper*, of the Dublin Pharmacopœia, is composed of four ounces of black pepper to a pound of lard. As before mentioned, it has been employed against *tinea capitis*.

Piper longum.

This, like the last-mentioned species, is a native of the East Indies. It is cultivated in Bengal for the roots and stems (which, when cut into small pieces and dried, form a considerable article of commerce all over India, under the name of *Pippula moola*, being used for medicinal purposes), and also for the fruit, which, when dried in the unripe condition, constitutes the *Piper longum* of the shops.

This plant is dioecious, shrubby, and creeping. The female flowers consist of a number of sessile, suborbicular ovaries, arranged along a spadix. When these ripen into fruit, they form one-seeded drupes, whose pericarps are firmly united together. When fully grown, but yet unripe, the spadices are gathered and dried by exposure to the sun. They are then packed in bags for sale.

As met with in commerce, *Piper longum* is greyish-brown, cylindrical, an inch or more in length, having a mild aromatic odour, but a violent pungent taste.

This pepper was analysed by Dulong in 1825. The following are the substances he obtained from it:—

- Acrid fatty matter (resin?)
- Volatile oil.
- Piperin.
- Nitrogenous extractive.
- Gum.
- Bassorin.
- Starch.
- Malates and other salts.

The volatile oil of long pepper is colourless;

and has a disagreeable odour and an acrid taste.

The effects of long pepper are analogous to those of black pepper. Cullen and Bergius considered it less powerful, but other pharmacologists are agreed in its being more acrid. Medicinally, it may be employed in similar cases. It is extensively used for culinary purposes.

It is a constituent of the *confection of opium*, the *compound powder of chalk*, and the *compound powder of cinnamom*.

Piper Betle.

This species of *Piper* in habit resembles black or common pepper; the leaves, however, are more oblique, and seven-nerved, and the spadices are pendulous, and much larger.



FIG. 178.—*Piper Betle.*

I have on a former occasion alluded to the extensive use of this plant (along with lime and Areca nuts) as a masticatory, by the Malays and other nations of the East, who consider it as a necessary of life. The mode of taking it in Sumatra consists simply in spreading on the *sirih* (the leaf of the *Piper Betle*) a small quantity of *chunam* (quicklime prepared from calcined shells), and folding it up with a slice of *pinang* (Areca nut). From the mastication there proceeds a juice which tinges the saliva of a bright red, and which the leaf and nut, without the lime, will not yield. This hue being communicated to the mouth and lips, is esteemed ornamental; and an agreeable flavour is imparted to the breath. The juice is usually, but not always, swallowed. It does not, as we might anticipate, injure the coats of the stomach; but it probably loosens the teeth. To persons who are not habituated to this composition, it causes giddiness, astringes and excoriates the mouth and fauces, and deadens for a time the faculty of taste. Individuals, when toothless, have the ingredients previously reduced to a paste, that they may dissolve without farther effort.

This account of *Betle* I have taken from Mr. Marsden's *History of Sumatra*.

Piper Cubeba.

History.—It is uncertain when the cubebs of our shops were first introduced into medicine, or who first alludes to them. There does not appear to be any foundation for the opinion that the ancient Greeks were acquainted with them. “Many, indeed, pretend that the *Carpesion* (καρπήσιον) of Galen is our cubeb, and that the round pepper of Theophrastus, the pepper of Hippocrates, were all names for them; but this is a conjecture founded on a very bad basis. The Arabians are at the head of these blunders. Serapio has translated all that Galen says of carpesion, into his chapter of cubeb, and attributed all its virtues to it, and has even added every thing to the account that Dioscorides has left us of the *Ruscus*. Avicenna is also in the same error, and calls the carpesium cubeb; and from these authors Actuarius and the other Greeks have collected their accounts. It is plain from all this, that either the carpesium of the Greeks, and cubebs of the Arabians, are the same things, or else that the Arabians have been guilty of confounding different things in a strange manner together; if the latter be the case, there is no judging of any thing from what they say; and if the former, it is very evident that our cubebs are not the same with theirs—that is, with the carpesium of Galen; for he expressly assures us that this was not a fruit or seed, but, as he tells us, a kind of slender woody twigs, resembling in smell and virtues the root of the valerian: nothing is more evident than that the carpesium, therefore, was either a fibrous root, or the small twigs and branches of a climbing plant, not a round small fruit. If the Arabians, therefore, were acquainted with our cubebs at all, it appears that not knowing what the carpesium and ruscus were, they ignorantly attributed the virtues ascribed by the Greeks to these medicines to these fruits.”—(Hill’s *History of the Materia Medica*).

Botanical History.—*Piper cubeba* is a native of several parts of the East;—for example, Java, the Mauritius, Prince of Wales’ Island, the Isle of France, Guinéa, &c. It is a shrubby, creeping plant, with petioled, ovate lanceolate, scarcely triple-nerved leaves. The flowers are arranged along a spadix, both males and females being supported by pedicles, the latter, however, having the longest.

Physical characters.—The dried unripe fruit of this plant constitutes the cubebs, or *piper caudatum*, of the shops. The latter designation is so far objectionable, that the fruit of *Piper capense* also bears this name.

In appearance, cubebs resemble black pepper, except that they are lighter colour-

ed, and are each furnished with a stalk, two or three lines long, and from which circumstance they have received their name *caudatum*. The cortical portion of cubebs (that which constituted the fleshy portion of the fruit), appears to have been thinner and less succulent than in black pepper. Within, it is a hard spherical seed, which is whitish and oily. The taste of cubebs is acrid, peppery, and camphoraceous; the odour is peculiar and aromatic.

Chemical composition.—Three analyses of cubebs have been made: one by Trommsdorf, in 1811; a second by Vauquelin, in 1820; and a third by Monheim, in 1835.

The constituents of this fruit which are most important in a therapeutical point of view, are the following:—

1. *Essential oil of cubebs.*—By distillation cubebs yield about 10·5 of a transparent, slightly coloured volatile oil, which is lighter than water, and has the cubeb odour, and a hot, aromatic, bitter taste.

By keeping, it sometimes deposits crystals (*Cubeb steareoptene*, or *Cubeb camphor*), the primary form of which is the rhombic octahedron. Their odour is that of cubebs; their taste at first that of cubebs with camphor, afterwards cooling. They are fusible at 133° F.; soluble in alcohol, æther, and oils, but are insoluble in water.

2. *Resin of cubebs.*—Vauquelin has described two resins of cubebs: one is green, liquid, acrid, and analogous, both in odour and taste, to balsam of copaiva; the other is brown, solid, acrid, and insoluble in æther.

3. *Cubebin (Piperin).*—From cubebs is obtained a principle to which the term *cubebin* has been applied. It is very analogous to, if not identical with, Piperin. Cassola, a Neapolitan chemist, says it is distinguished from the latter principle by the fine crimson colour which it produces with sulphuric acid, and which remains unaltered for twenty or twenty-four hours: moreover, Cubebin, he says, is not crystallizable.

Monheim, however, declares Cubebin identical with piperin, and he tells us that, like the latter, it is combined with a soft acrid resin. In this state it is soluble in æther, alcohol, the fixed oils, and acetic acid; but is insoluble in oil of turpentine and dilute sulphuric acid. It fuses at 68° F.

4. *Extractive matter of cubebs.*—Vauquelin says the extractive matter of cubebs is analogous to that found in leguminous plants. It is precipitable by galls, but not by acetate of lead.

Physiological effects.—The sensible operation of cubebs is very analogous to that of black pepper. Taken in moderate doses, they stimulate the stomach, augment the appetite, and promote the digestive process. In larger quantities, or taken when the sto-

mach is in an irritated or inflammatory condition, they cause nausea, vomiting, burning pain, griping, and even purging. These are the local effects of this fruit: the constitutional ones are those resulting from the operation of an excitant,—namely, increased frequency and fulness of pulse, thirst, and augmented heat. In some instances cubebs give rise to an eruption on the skin like urticaria. Not unfrequently we have headache; and occasionally disorder of the cerebro-spinal functions, manifested by convulsive movements or partial paralysis, as in a case related by Mr. Broughton in the first volume of the *MEDICAL GAZETTE*.

Cubebs appear to exercise a specific influence over the urino-genital apparatus. Thus they frequently act as diuretics, and at the same time communicate a peculiar aromatic odour to the urine. Their stimulant operation on the bladder is well illustrated by a case related by Sir Benjamin Brodie. A gentleman labouring under chronic inflammation of the bladder took fifteen grains of cubebs every eight hours, with much relief. Being anxious to expedite his cure, the patient, of his own accord, increased the dose to a drachm. This was followed by an aggravation of the symptoms: the irritation of bladder was much increased, the mucus was secreted in much larger quantity than before, and ultimately the patient died,—“his death being, I will not say occasioned,” adds Sir Benjamin, “but certainly very much hastened, by his imprudence in overdosing himself with the cubebs.”

Uses.—From the known physiological effects of cubebs, no one could have anticipated the extraordinary efficacy of their use in gonorrhœa. We may, indeed, endeavour to satisfy our minds, as some pharmacological writers have done, by saying that cubebs establish a salutary revulsion, by their action on the alimentary canal or skin; or that they substitute a new form of irritation in the urethra, (either by their specific influence over the mucous lining of this tube, or by the local action of the oil of cubebs on the bladder and urethra in its passage through them; for it is assumed on this theory that the oil is absorbed, and afterwards secreted by the kidneys), and that this irritation subsides when we leave off their use; and by adopting these modes of expression, we may fancy we possess some positive information; but the fact is, as MM. Trousseau and Pidoux have justly observed, we are still perfectly ignorant of the physiological mechanism by which cubebs cure urethral catarrh.

We have learned the use of cubebs in gonorrhœa from the natives of India. An English officer having contracted a clap

which had resisted all the usual remedies, was cured by cubebs administered to him by his native servant. This remedy has been introduced into European practice rather more than twenty years. It is given in as full doses as the stomach can bear (say from one to three drachms.) It may be exhibited at any stage, even while inflammation is still present in the urethra, provided it be not of a very violent kind, in which case you must resort to the usual antiphlogistic measures. In mild cases it frequently effects a cure very speedily; but in some instances I have seen it increase the inflammatory symptoms; and in a large proportion of cases it has quite failed in my hands. It is sometimes given in combination with balsam of copaiva, and with great benefit. I frequently exhibit the essential oils of copaiva and cubebs in conjunction; indeed, I much prefer this compound remedy for gonorrhœa,—always cautiously avoiding its use where much inflammatory action is present. Cubebs have been thought in some instances to have brought on swelled testicle; but I have not observed this affection to be more common in gonorrhœal patients under the influence of cubebs, than in those who, affected with the same disease, did not take it; so that I believe inflammation of the testicle to have been an accidental circumstance.

Cubebs should be continued for some time after the gonorrhœal discharge has ceased, otherwise a relapse will sometimes take place.

Besides the before-mentioned disease, cubebs have been employed in leucorrhœa and gleet, and not unfrequently with benefit. In abscess of the prostate gland, cubebs in doses of twenty or thirty grains, three times a day, have in many cases appeared to do good, in the opinion of Sir Benjamin Brodie. They seemed to act as a gentle stimulus to the parts, and to operate on the disease much in the same way that Ward's paste operates on abscesses and fistulæ, and ulcers of the rectum.

Formerly cubebs were employed as gastric stimulants and carminatives in dyspepsia, and sometimes with great benefit. They have also been used in rheumatism. The Indians macerate them in wine, and take them to excite the sexual feelings.

Mode of administration.—The powder may be exhibited in doses of from one to three drachms. In the Dublin Pharmacopœia there is a *tincture of cubebs*, prepared by digesting four ounces of cubebs in two pints of proof spirit; the dose is one or two drachms three times a day. But the best preparation is the *volatile oil of cubebs*: it is now commonly met with in the shops, and may be given in doses of ten or twelve

drops, gradually increased as the stomach will bear it. I have in some instances increased the dose to a fluid drachm. The oil may be given suspended in water by mucilage, or may be dropped on sugar. On the continent a preparation is used, called the *oleo-resincous extract of cubeb*; it is prepared by adding the oil to the resinous extract of cubeb (prepared by digesting the cake left after the distillation of the oil, in alcohol, and distilling off the spirit.)

THYMELACEÆ.

This family contains only one officinal species, namely, *Daphne Mezereum*; but two other species of *Daphne* require to be mentioned.

Daphne Mezereum.

Mezereon is a beautiful indigenous shrub, common in gardens, but rarely found wild in this country. Its leaves are lanceolate, entire, deciduous: the flowers appear in March, previous to the expansion of the leaves; they are sessile about three together, and consist of a beautiful rose-coloured, inferior four-lobed calyx (which, from its colour, is frequently mistaken for a corolla), eight stamina, and a short terminal style. The fruit is a scarlet berry, having one cell, and containing one exalbuminous seed.

This plant belongs to class *Octandria*, order *Monogynia*, in the Linnean arrangement.

In Germany the bark of the stem and larger branches is removed in spring, folded in small bundles, and dried for medicinal use. In this country the bark of the root is employed: it is tough, pliable, and fibrous; externally it has a brownish corrugated appearance, while internally it is white and cottony. Its taste is at first sweetish, but afterwards highly acrid; it is without odour.

According to the analyses of C. G. Gmelin and Bär, the bark of the stem contains—

Wax.

An acrid resin.

Daphnin.

Volatile oil (a trace).

Yellow colouring principle.

Uncrystallizable, but fermentable, sugar.

A nitrogenous gummy matter.

A reddish brown extractive.

Woody fibre.

Malates of potash, lime, and magnesia.

The *acrid resin* is obtained by boiling mezereon in alcohol; when the solution cools, some wax deposits. Pour off the supernatant liquid, and evaporate; then wash the extract with water. This resin

is of a dark-green colour, and is soluble in both alcohol and æther. To this principle mezereon owes its acidity. There is, however, some reason for suspecting that the resin itself is composed of two other principles—namely, an acrid, vesicating, fixed oil, and another substance.

Daphnin is a peculiar crystalline principle, having a bitter, slightly astringent, taste. It is soluble in alcohol and æther, but possesses neither acid nor basic properties. Gmelin and Bär consider it analogous to asparagine. It is not the principle on which the activity of mezereon depends.

Physiological effects.—All parts of this plant, but more especially the bark and fruit, are endowed with an excessive acidity; so that they are capable of irritating and inflaming any living parts with which they are placed in contact, and therefore, when swallowed, are poisonous.

(a.) *On animals.*—Thus Linnæus tells us that six berries killed a wolf; and Lange says that a scruple of them, in fine powder, destroyed a dog. On the other hand, from Sir James Edward Smith we learn these berries are the favourite food of some species of finch (*Loxia*).

(b.) *On man.*—The action of Mezereon on man is that of a local irritant and stimulant. In *small doses* it promotes the secretions, especially those of the kidneys, skin, bronchial membrane, salivary glands, and gastro-intestinal membrane. Occasionally, also, it is said the secretions have acquired a peculiar odour, under its long-continued use. In *larger doses*, it produces dryness and heat in the throat, increased flow of saliva, pain in the stomach and bowels, and sometimes vomiting and purging; the stools being occasionally bloody. Vicat mentions the case of a dropsical patient who took the wood of mezereon: he had diarrhoea, pain, and violent vomiting, in consequence. The latter symptoms lasted for six weeks.

In some cases the urinary organs are affected, as when cantharides have been taken. The cerebro-spinal system also occasionally suffers, indicated by great feebleness, giddiness, incapability of keeping the erect posture, and slight convulsive movements.

In *very large doses*, mezereon is capable of acting as a powerful acrid poison. But I am not acquainted with any cases of this kind which have occurred in the human subject. Vogt, however, says (though I know not on what authority) that it vomits and purges, and affects the urinary organs; and that death takes place from its local operation.

Uses.—As a *local irritant*, the bark of *Daphne Mezereum*, as well as that of *D.*

Gnidium, is employed, in France, under the name of *Garou*, to produce vesication. The mode of applying it is this:—First soften it by soaking in hot vinegar and water, and then apply to the part by a compress and bandage. We should renew it night and morning, until vesication is produced.

In this country it is frequently employed as a topical remedy for tooth-ache. Dr. Withering cured a case of difficulty of swallowing (arising from a paralytic affection) by mezereon, which he directed to be chewed frequently.

Internally it is used in venereal, rheumatic, scrofulous, and chronic cutaneous diseases. It was introduced as a remedy for venereal diseases, particularly in thickening of the periosteum, by Dr. Alexander Russell. Mr. Pearson tried it, and after many years observation of it, says, "I feel myself authorized to assert unequivocally, that the mezereum has not the power of curing the venereal disease in any one stage, or under any one form." Dr. Cullen says he has employed it with success in some cutaneous diseases.

Mode of administration.—When used as a *masticatory*, the dose is about ten grains. The usual mode of exhibiting it internally is in *decoction*, prepared by boiling two drachms of the bark and half an ounce of liquorice-root, in three pints of water, down to two pints. The dose is from four to six ounces. Mezereon is a constituent of the *compound decoction of sarsaparilla*.

Daphne Gnidium.

The *flax-leaved Daphne*, or *Spurge flax*, is a native of the southern parts of France, of Italy, Spain, &c. Its effects and uses are precisely similar to those of Mezereon already mentioned. The bark of it is employed in France as a vesicatory, though the bark of Mezereon is often substituted for it in the shops.

Daphne Laureola.

The *Spurge-Laurel* is an indigenous plant, having yellowish-green flowers and black berries. It possesses similar properties to the species already mentioned.

Lagetta lintearia, or *Daphne Lagetto*.

The *Alligator bark*, or *Lace bark tree*, of Jamaica, is notorious for the facility with which its bark may be separated into twenty, thirty, or more laminæ, white and fine-like gauze; of which caps, ruffles, and even whole suits of ladies' clothes, have been made. We are told that the Governor of Jamaica presented Charles II. with a cravat, frill, and ruffles, made of it. It possesses the medicinal properties of Mezereon, and has been employed in similar cases.

ON THE APPLICATION OF SOLID NITRAS ARGENTI

IN THE GONORRHŒA OF WOMEN.

To the Editor of the Medical Gazette.

SIR,

I HAVE for many years derived great benefit from the direct application of the nitrate of silver to the vagina, in cases of gonorrhœa in women. The invariable and very speedy cures accomplished by it often prompted me to make its efficacy more generally known; but a spirit of procrastination at one time, and an incessant round of occupations at another, prevented me doing so. The practice has now been pretty freely spoken of in this quarter, and I am desirous to give a precise and accurate account of my mode and its happy effects, to prevent any misunderstandings that are likely to follow the want of information on the subject. May I also venture to hope that the same remarkable success which has followed the use of the remedy in my hands, may attend its application when guided by the hands of other practitioners. I would respectfully solicit, then, a place in your columns for the following communication.

I have the honour to be, sir,

Your very obedient humble servant,

ALEX. J. HANNAY, M.D.

Professor of Physic, Anderson's University, Glasgow; Honorary President of the Glasgow Medical Soc.; Surgeon to the Lock Hospital; &c.

Glasgow, April 4, 1837.

Gonorrhœa in the female is commonly said to be a very curable disease. It is certainly much more so than in the male; but on practical investigation of this disease, I found that it was not so curable as has been supposed—at least by the means commonly used. I tried every form and combination of astringents, particularly that of alum and zinc; half an ounce of each in a pound of boiling water was my common injection. This occasionally effected a cure in eight or ten days; but for one case in which this took place in the time specified, ten resisted the treatment for three or four weeks. The records of Lock Hospitals bear this out to the full; and cases so treated often

returned on leaving off the remedy. I had no better success from the solutions of the nitrate of silver: they were, indeed, generally less effectual than the other; besides, the method of injection is apt to be so irregularly pursued by the thoughtless characters in Lock Hospitals, that it will seldom be carried into complete and proper execution. It is a common boast of such persons how little they have regarded the injunction of the practitioner in this particular. I know one case where a woman used the alum and zinc injection just twice in nineteen days, whilst the practitioner fancied she was using it three or four times daily. It becomes of importance—of the utmost importance—that the treatment in case of Lock Hospitals be of such a kind as that the practitioner can either administer it himself, or be assured that it be done. The remedy to be noticed has this great merit; and if it had not half the efficacy which I know it to have, it would surpass all others on that account, in the institutions above named. I had long tried in vain, and, I repeat, had found very useless, the injections of an astringent kind.

Having noticed that some cases of gonorrhœa, with ulceration in the vagina, and to which I had freely applied the nitras argenti, stopped in a most extraordinarily short period, I determined to select a few cases of uncomplicated gonorrhœa for trial. I accordingly did so, and found the effects to be very striking. I have repeatedly seen the discharge cease, never to return, in twenty-four hours. On the day after the application, I have often seen it changed in character, that is, lose its purulent form, and disappear in twenty-four hours more. The discharge changes from the purulent to a thinner clearer fluid, and ceases, I say, in twenty-four hours thereafter, simply by using a weak solution of acet. plumbi., or only tepid water, as a wash. I have kept such cases repeatedly under my eye for a month, and can declare that in the proportion of 95 in 100 there was no return of the discharge; yet no remedy had been employed after the nitrate. Though in some few cases there is a little pain produced, yet in by far the greatest number of instances no pain is experienced from the introduction and most free application of the caustic. It is painful, it is true, when it touches sores on the labia or more internal parts;

but that smarting soon goes off, or, at all events, an anodyne instantly relieves it. In the greater number of cases it produces no phlogosis of the parts with which it comes in contact; but in some (say in one case in twenty) it does irritate to a degree that proves painful for a few hours, but never in any one instance have I seen the pain continue longer than a few hours. I have never seen bubo induced by it. I have used it in patients in every month of pregnancy with the best effects, and never saw abortion produced. I know, by as careful examination as I could make, that it does not suppress the catamenia: in short, I fearlessly give it out as an infallible and safe remedy for this disease, without any one drawback but the vain fears of persons of no experience, or of such as are determined to oppose it. I have now employed it in above 300 cases with unvarying success, and shall continue to use it.

I am the more particular in the notice of the above groundless evils and vain fears, since I have heard them repeatedly stated as likely to be overwhelming objections against the practice,—but only by persons, I must say, who have never seen the method practised. I know, on the most ample experience, that these objections are without any foundation whatever. I am at all times very unwilling to come forward with my remarks before the public, but I have no alternative; I must now speak out for myself, as I understand the treatment has been freely canvassed in the Glasgow Medical Society, where the inexperienced, on the strength of some eight or ten cases, attempted to demolish the careful observations (conducted before persons of competent judgment, and whose certificates are appended) of several years, and on hundreds of cases. I had the honour of introducing the practice into the Dublin Lock Hospital in August last, and I hope we shall be favoured with a report from that extensive and well-conducted institution. I may add, that in about six cases only, out of more than three hundred, the vaginal discharge has continued after repeated applications: in all of these I found, by the use of the speculum vaginae, that there was ulceration of the lining membrane of the vagina, and that the case was not gonorrhœa.

The application of the nitrate was not required more than once in 280 of the

300 cases. I may also add, that in two obstinate cases I found the disease to be kept up from *urethral discharge*, whilst that from the vagina had ceased. I then applied the nitrate to the urethra, and a cure was accomplished in both instances,—in one by a single introduction of the pencil, and in the other it required to be once repeated, at an interval of four days.

So far from the catamenia being suppressed by it, I have known more instances than one of the catamenia flowing for the first time after a long obstruction, on the use of the nitrate. I am so conscious of the benefit and complete success of the remedy in question, that I commit it to the profession, to whom I should not venture to make statements so confidently, unless I believed myself standing on pretty sure grounds.

I shall conclude by describing my method of using it. I introduce a stick of nitrate of silver into a quill, and tie a thread firmly round the lower part of the quill to fasten the caustic, which I leave projecting beyond the quill about half an inch. I generally smear the quill with a little lard, and introduce the *nitras argenti* up to the *os tincæ*, or as far as it can be made to ascend in the vagina. I then deliberately and slowly withdraw it, turning it round so as to bring it in as extensive contact as possible with the lining membrane of the vagina. I may add, that by accident the nitrate of silver has more than once broken in the vagina, and could not be found. It caused me much alarm and anxiety at first, but after the following case I was not so affected; and though I would carefully avoid it, I now regard the occurrence as of very little importance.

The late Mr. John Herbertson, who acted as my assistant in the hospital, came in breathless haste, and in the utmost state of alarm, to call me to his assistance to extract a piece of the nitrate of silver from the vagina of a woman, who, having previously been in the hospital, and cured by the use of the remedy in question, came to Mr. H. to have it again applied. On repairing to the house we searched in vain for the caustic, but had abundant proofs that it had dissolved in the vagina. The quantity he asserted to be above two drachms. She suffered little or no pain, and a perfect cure was straightway accomplished.

I beg to subjoin the following communications on the subject, as corroborative of all I set forth, and supplying additional observations:—

MR. BELL'S EXPERIENCE OF NITRATE OF SILVER.

Barrhead, April 4, 1837.

To Professor Hannay,

Dear sir,—I beg leave to inform you that I understand allusions have been lately made, in a very ungenerous manner, having the tendency to bring into disrepute the practice of applying the *nitras argenti* to the lining membrane of the vagina in the gonorrhœa of females, in the manner you have done for several years. As these statements emanated from sources which render them liable to make erroneous impressions on the minds of those students to whom they were addressed, I am induced to communicate the circumstance to you, in order that these assertions may be contradicted. At the same time I would beg leave to subjoin the effects which I have observed to result from the nitrate of silver in the affection in question, during the time I acted as your assistant in the Lock Hospital, and since that period.

In every case of gonorrhœa which came into the house the nitrate of silver was applied in the solid form to the internal surface of the vagina, and the result of this treatment was, that the discharge either disappeared in twenty-four hours, or was greatly diminished in quantity and changed in its nature, and finally ceased in forty-eight hours after the first application of the nitrate,—a second application being seldom or never required.

This was invariably the result. In most of the cases the discharge was exceedingly profuse, and had existed for a considerable time,—in some instances so long as twelve months,—and had resisted all other methods of treatment previous to admission.

I am aware it has been said that this suppression of the discharge is merely of a temporary nature, as it soon returns; but I have never known a single instance in which it did reappear. The patients often remained for a number of weeks in the house, in consequence of other syphilitic symptoms; and if the discharge had returned it would have surely been detected; but no such thing was ever

ascertained. In some cases, combined with ulcerations within the vagina, a slight discharge did occasionally continue, or reappear; it had not, however, the slightest gonorrhœal character, but merely consisted of the discharge from the ulcers, as was proved by the assistance of the speculum vaginae.

With respect to the evil consequences which are stated to arise from the use of the *nitras argenti* in this disease, I affirm in the most decided manner, that no such injurious results occur, except in the imaginations of those who shut their eyes to facts.

It has been asserted that, by applying the nitrate of silver to the vagina, abortion will be produced. This is a very alarming charge, indeed; it is, however, utterly groundless, as I have myself applied it during every stage of pregnancy,—and no abortion ensued. In most of these cases the placental souffle and foetal heart were distinctly heard, leaving no doubt of the existence of pregnancy; indeed some of the women gave incontrovertible proof of this state, from parturition taking place at its proper period. This objection, therefore, is merely the supposition of the creative fancy—a phantom of the imagination of those who have no experience of the treatment which they so unwarrantably condemn.

“Without the means of knowing right from wrong,
They are decisive, clear, and strong.”

Another objection, also of a very serious nature, has, I believe, been made to the use of the nitrate of silver—namely, that it causes a suppression of the catamenia. This assertion, I confess, astonishes me very much, because it is utterly unfounded, and totally inconsistent with my observations. Instead of the catamenia being suppressed by the introduction of the nitrate to the vagina, it acted as an excellent emmenagogue; indeed it has been stated by one of the most experienced men in France (M. P. Ricord, surgeon to the Venereal Hospital of Paris), that the *nitras argenti* applied in this manner is the very best remedy which we possess in cases of obstructed menstruation. I have myself employed the nitrate, and the very next day the catamenia appeared. In short, I positively deny that its application will suppress the menstrual flux, and contend, on the

contrary, that it has the very opposite tendency.

It has been said that the introduction of the nitrate into the vagina must give rise to great pain—that it is a most horrid and barbarous practice. This apprehension also is totally without foundation. There is not the slightest pain whatever produced by it, except when ulcerations exist within the vagina and on the labia: that pain is produced in such cases I admit, but I firmly contend and appeal to experience, that no pain is caused when the gonorrhœa is uncomplicated with ulcers. In some instances I accidentally broke the nitrate in the vagina, but it soon dissolved without producing the least pain or any other evil consequences. In one case in which this occurred, the woman was about four months advanced in pregnancy, and no abortion ensued.

Hence these objections, and all others which may be used against the use of the *nitras argenti* in the gonorrhœa of females, are totally groundless—are merely the imaginative fabrications of persons who have never seen the remedy applied, and whose reluctance to admit any improvement in the treatment of the disease, will not allow them to give the nitrate a fair trial, although they possess ample opportunities.

This statement may appear too sweeping, but it is not the less true, as I have seen the nitrate applied in above 100 cases, and not the least evil consequences of any kind whatever ensued. The assertions of those who condemn the efficacy of the treatment must, therefore,

“Fall like an inverted cone,
Wanting its proper base to stand upon.”

As to the truth of these remarks regarding the high utility of the nitrate of silver in curing gonorrhœa, I appeal to the journals of the Lock Hospital for their confirmation, and certainly whoever glances at the pages of these records cannot fail to be struck with the great contrast between the duration of the gonorrhœal discharge in cases treated by your method, and those which had the benefit of the ordinary and commonplace treatment.

I can also produce the evidence of other practitioners, who have employed the nitrate of silver with the most beneficial results in gonorrhœa.

I may have perhaps employed rather strong language in the preceding re-

marks, but really when I hear statements made so utterly inconsistent with facts, and so incompatible with truth, I cannot refrain from contradicting them in the most explicit terms.

I trust that you will forgive this intrusion on your valuable time, and I would also beg leave to entreat you to make the efficacy of the nitrate of silver in the cure of gonorrhœa publicly known to the members of the profession, so that they may become acquainted with the means by which this filthy and loathsome disease may be cured in a few hours. If they do not adopt this method, I humbly submit that they will reject a remedial agent more successful in this disease than any which has hitherto been proposed, and as speedy as any that we can reasonably expect ever to be discovered. Indeed, I cannot help stating my surprise that you have not published on the subject many years ago, as the adoption of the practice would be of great importance to society in various respects, particularly in Lock Hospitals, by diminishing very considerably the expense of such institutions. I trust, however, that you will very shortly redeem this obligation to the community, and to the profession.

I am, dear sir,

Yours very obediently,
JOSEPH BELL.

MR. THOMSON ON NITRATE OF SILVER IN
GONORRHŒA.

To Doctor Hannay.

Dear sir,—I deem it my bounden duty to present you with the conclusions I have come to, and the opinions I have formed, respecting your mode of treatment in the gonorrhœa of females.

However diffident I may be, yet I come forward the more readily, in consequence of the many grave charges that have been made and circulated in this school against it—charges which I am sure have not the foundation of an extensive, or even an impartial investigation.

You will view the following few remarks as my deductions from the treatment that was followed in the patients of the Glasgow Lock Hospital, whilst I officiated as clerk to that institution.

The pain which is said to be caused by the use of the nitrate of silver, above

all other objections, should never have been adduced as one of its attendant evils. It at once displays the feeble basis on which disrepute has been attempted to be thrown upon its use.

Importunity may have elicited an assertion of the caustic giving them pain from some patients, who were perhaps anxious to live some longer time upon the funds of such charitable establishments than the application of this remedy permitted. But, (excepting where ulceration of the labia also existed), no pain whatever is occasioned by its introduction. Without this complication, the termination of such cases was speedy beyond all expectation. Before eight-and-forty hours had elapsed, after *one application* of the remedy, the discharge had disappeared in nearly every case.

That this discharge ever returned, is equally erroneous; for patients who had remained long in the hospital for complaints perfectly distinct from gonorrhœa, bore the indubitable evidence of the perfect cures which had been accomplished.

Nor were the catamenia, in any case that I observed, ever obstructed. Every day produced cases of the regular return of these discharges, in patients who were under this treatment. Nay, I was often induced to believe in the efficacy of the practice as an emmenagogue, where the catamenia had been for a period of several months irregular; and even to cause their return where they had been suppressed for years.

Were I to take up every argument and fear alleged, I would merely have to oppose my strenuous denial to their force, or to their veracity. Before I end, however, I would notice one circumstance, of a more serious import than any I have yet answered: it is no less than making out this remedy to be a cause of abortion. Nothing, in my estimation, more clearly shows that the eyes of those who have made it their business to deny this improvement have been closed to all experience, and that neither candour nor justice has had any hand in the constitution or proceedings of their inquiry. To me it seems that this so frequent *misfortune*, which happens among the class of females who are the chief (far from saying the sole) subjects of this treatment, has been very unhappily selected as the means

of casting a slur on the utility of the remedy; for was there any one accusation to which I would more forcibly give my denial than to another, it would be to the one I am now writing of. Cases constantly occurred, of patients who, after more than once being cured of this disease, and by this method, during the period of pregnancy, regularly advanced to their full time of utero-gestation. During my attendance upon the hospital, cases of abortion did certainly occur, but my memory still holds that in these the nitrate had never been applied: they were cases not requiring it—not being instances of vaginal discharge, but of ulcers. But my memory is not the only repository of the fact—the reports of the house, and the written observations I made at the time, and which I have now beside me, are my guarantees as to the actual condition of matters.

The fancies of the fearful might be apt to dwell upon a long list of consequences likely to accrue from accidents arising from the application of this remedy; but experience taught me to care nothing for them. Once or twice, indeed, I did apprehend that I would have had reason to regret some mishap; but what was my surprise when neither irritation nor any other bad effect ensued, although the caustic breaking off remained, and had dissolved within the vagina? So far was it, indeed, otherwise, that I thought myself authorized to believe that the cure, in these cases, was more speedily and completely performed.

For corroboration of what I have stated, I have only to appeal to those gentlemen who, along with me, had the satisfaction of witnessing its use under your hands, and whose additional testimony must, to every unprejudiced reflection, set the matter beyond doubt.

A comparison of your success in treating this disease, with the protracted cases under the care of other practitioners, within the walls of similar institutions, is confirmative of the value of the discovery.

There is a vast field for the trial of the remedy in the large Lock Hospital, in Dublin; where I saw you introduce the remedy, and recommend it to the notice of the medical attendant, last year. I am confident that were it employed there, the stay of each patient in the house would

be curtailed at least one-half, vast expense saved, and the amount of good greatly increased.

That the utility of this so effectual means of removing a disease so annoying and so baffling to patient as well as physician, may soon find its diffusion, is the desire of, sir,

Yours most obediently,

JAMES SHORT THOMSON.

TESTIMONY OF MR. SUMMERS IN FAVOUR
OF NITRATE OF SILVER.

To Dr. Hannay.

Dear sir,—While I acted as your clerk at the Lock Hospital, ample opportunities were afforded me of seeing the nitrate of silver in substance employed in the cure of gonorrhœa; and I can confidently say, that in every uncomplicated case it proved speedily and permanently effectual. Twenty-four hours after its application the secretion was observed invariably to be changed in character and diminished in quantity; and in twenty-four hours more, it had almost, or altogether, disappeared. If such practice were more generally adopted in hospitals set apart for the treatment of venereal diseases, their inmates would be diminished, and the expenses of the institutions materially abridged. Any objections that have been brought against this practice seem to be ill-founded, and to have originated with those who have never given the remedy a fair trial, or a trial at all. For instance, it has been accused of causing abortion. Now I can only say that I have repeatedly seen it used, when the woman was pregnant, without the superintention of such a consequence. Nor is the accusation that it produces obstruction of the catamenia, better founded; nay, it has been known, in many instances, to bring about that discharge after a considerable time's absence. If a proper inquiry be instituted, the catamenia of a great many of the patients admitted will be found obstructed: this may have given rise to the objection. It has been said, too, "that the disease soon returns:" this objection is utterly groundless. I have seen very frequently, patients who had been treated in this way detained in the hospital for many weeks, from other causes; and yet there was never, in any case, the slightest appearance of a re-

lapse. If ever I have occasion to treat gonorrhœa in the female, I will decidedly make use of the nitrate of silver, from a firm conviction of the certainty with which it cures that complaint.

I am, sir,

Your obedient servant,

JAMES SUMMERS.

Glasgow, April 1, 1837.

ON THE CREPITOUS RALES.

To the Editor of the Medical Gazette.

SIR,

I SHALL, as on former occasions, make a few remarks on certain passages of M. Laennec's work.

"The *moist crepitous râle* is a sound which evidently takes place in the pulmonary tissue. It may be compared to that produced by the decrepitation of salt at a gentle heat in a vessel—to that given by the inflation of a dry bladder—or, better still, to that which is heard when the tissue of a lung which is healthy and distended with air is compressed between the fingers. It is, however, a little stronger than this last, and conveys, besides the crepitation, a well-marked sensation of humidity.

"It is evident that the pulmonary cells contain a liquid almost as thin as water, which does not prevent the air from entering them. The bubbles of which it is formed appear extremely small.

"This species of râle, moreover, which is one of the most important to be known, is very easily distinguished; and it is sufficient to have once heard it in order to recognize it ever afterwards. *It is the pathognomonic sign of the first stage of pneumonia*; it ceases when the lung has acquired the hardness of hepatization, and *reappears when resolution takes place*.

"*It is equally met with in œdema of the lung, and sometimes in hæmoptysis*. In these two last cases, the bubbles formed by the displacing of the air usually appear a little larger, and more moist, than in the crepitous râle of pneumonia. I call this variety the *sub-crepitous râle*."

There is something rather indefinite in the application of the term *pathognomonic* to a sign which exists not only in the various cases mentioned above, but which also "*announces the resolution of pneumonia arrived at the stage of purulent infiltration**." I should be inclined to suppose that a part of the preceding description had been inserted by mistake, as the comparison from the inflation of a dry bladder is also made with reference to—

Le râle crépitant sec à grosses bulles.

This râle "scarcely exists except in inspiration; it gives a sensation of air distending pulmonary cells which are dry and very unequally dilated, or even penetrating into the surrounding cellular tissue of the lung. The sound is exactly *analogous to that produced by the inflation of a dry bladder*. This phenomenon is the *pathognomonic sign of pulmonary emphysema, and of interlobular emphysema of the lung*."

It is unnecessary to point out the great difference between *pneumonia* and *emphysema*, and the danger of confounding them, in a practical point of view.

As the crepitous râle occupies a prominent place in the work of Laennec, it may not be amiss, although with much repetition, to bring forward some more passages tending to illustrate the difficulty of distinguishing the shades of sound which this sign presents.

Signes physiques de la pneumonie.

"The crepitous râle is the pathognomonic sign of inflammatory *engouement* of the lung; it is perceptible from the very commencement of the inflammation; it then presents the image of bubbles, which are very small, very equal among themselves, and appears very slightly moist.

"As the engorgement increases and approaches the stage of hepatization, the crepitous râle becomes more moist; its bubbles are less equal, and more rare."

De l'œdème du poumon.

"The stethoscope affords two means of recognizing œdema of the lung. The respiration is much less audible than one would expect, considering the effort

* Résolution de la pneumonie.

with which it is accomplished, and the great dilatation of the thorax with which it is accompanied.

"At the same time, as in the first stage of pneumonia, a slight crepitation is heard, more analogous to râle than to the natural sound of respiration. This crepitous (or rather *subcrepitous*) râle, is less dry than that of the first stage of pneumonia. Its bubbles appear larger, and convey to the ear a more manifest sensation of humidity. However, it must be confessed that the distinction of these two affections from one another, with the help solely of the signs furnished by the cylinder, is sometimes difficult, and that it is necessary to join with them a comparison of the general symptoms."

Let the reader here also recollect, that this difficulty applies to such practically different states as the *first stage of pneumonia and œdema of the lungs*.

De l'apoplexie pulmonaire.

We are told that in this disease, as well as in pneumonia, "*the crepitous râle*, the absence of breathing and of sound, are met with; but that the local and general symptoms being quite different in those two cases, there can very rarely be room for hesitation."

A mistake in diagnosis between pneumonia and pulmonary apoplexy would be, no doubt, of much less consequence in general than in the preceding cases; still it might not be altogether without its inconveniences. The assertion as to the great difference between the local and general symptoms should be admitted with some reserve. With regard to the *size* of the bubbles, and the *viscosity* of the liquid which forms them, considered as distinctive characters, the following passages may not be unworthy of notice.

Under the head *Du catarrhe muqueux aigu*, the temporary and sudden suspension of the breathing from mucosities in a bronchus, is mentioned as one of the signs of pulmonary catarrh.

"Sometimes there is not an absolute suspension of the respiration, but only so great a diminution in the intensity of the sound which it produces, that it is scarcely audible, and can only be distinguished, so to speak, by the help of a slight *obscure* mucous and sibilant râle, which is then heard from time to time.

"*The bubbles are as small as those of the crepitous râle*, and only differ from these last by being *isolated* (par leur *isolement*), and by the *evidently greater viscosity of the matter which forms them*."

A similar remark as to the viscosity of the sputa had been made previously.

Du râle muqueux.

"It generally presents the image of bubbles analogous to those produced by blowing through a reed in soap and water. The ear appreciates very clearly the consistence of the liquid which forms them, and which is *always evidently greater than in the crepitous râle*."

In the description, however, of the "*crachats glutineux*" of pneumonia, these last are said to be, "when collected in a flat and open vessel, *so tenacious and viscid*, that the vessel, even when full, may be inverted without their being detached from it.

"Ils cèdent seulement à la pesanteur en formant une sorte de nappe. If you shake the vessel, they tremble almost like jelly, but in a less degree."

It is quite unnecessary, I presume, to make any comment upon the assertion, "*Cette espèce de râle* (the moist crepitous), au reste, une des plus importantes à connoître est très facile à distinguer, et il suffit de l'avoir entendue une fois pour ne pouvoir plus s'y tromper."

I wish to take this opportunity of qualifying a former statement as to the height of the liver and the diaphragm generally, *considered with reference to particular ribs*. Having great confidence in the (supposed) knowledge of anatomists on this subject, I did not wait to examine the point on a sufficient number of dead bodies, nor perhaps duly consider the influence of posture in the living. My previous inquiries had been conducted with a view to obtain signs which should hold good in themselves; and the results have not been unsatisfactory.

With regard to the ribs, I believe that my generalization of the height of the diaphragm was too strongly expressed; that is, that it does not rise above the level of the fifth rib nearly so often as I had supposed. The remarks, however, which I ventured to make on the opinions of Laennec will, I think, be found, even

with all due allowance, to be essentially neither useless nor uncalled for.

I am, sir,
Your obedient servant,
EDWIN HARRISON, M.D.

Grove Terrace, Lisson Grove,
April 27, 1837.

GLASS ERODED BY LICHEN.

To the Editor of the Medical Gazette.

SIR,

I SHOULD feel obliged by your inserting the following in your talented journal, if you deem it of sufficient import.

I am, sir,
Your obedient servant,
THOMAS HICKES, M.R.C.S.

Gloucester, April 25, 1837.

Several pieces of glass were lately brought to me by a glazier in this city, taken from the old windows of an ancient church in the vicinity; some of these had the appearance of being worm-eaten. Struck with the singularity of this, I immediately commenced an investigation of the circumstance, that I might ascertain by what agency this corrosion had been induced. Upon making a minute examination, I found it was caused by the instrumentality of a cryptogamic plant, I believe of the Lichen species. The first indication of the plant was a greenish pulverulent mould on the surface of the glass; in this substance some light-coloured brown dots appear; these enlarge, and form cup-like substances, of a slightly violet tinge; these plants increase, and become fully developed. The glass is gradually acted upon, being first a little roughened and indented; afterwards small cavities, some even penetrating a considerable distance into the substance of the glass, are formed.

Not having read or heard of any plant having hitherto been discovered capable of decomposing and growing on and in the substance of glass, I thought it right to make a public communication of the fact through the medium of the pages of your valuable periodical, leaving it to other and abler naturalists and philosophers to disclose the kind of agency, whether chemical or galvanical, by which this singular decomposition of glass is effected.

The glaziers of this city inform me that glass similarly acted upon may be met with in the cathedral and old church windows.

AMPUTATION OF THE PENIS.

To the Editor of the Medical Gazette.

SIR,

IF you think the following plan for amputation of the penis worthy a place in your valuable journal, the insertion of it will much oblige, sir,

Your obedient servant,

C.

April 25, 1837.

Operation.—The patient being properly placed, and supported by assistants, the bladder is relieved of its contents, and the surgeon commences by introducing a full-sized elastic or common bougie (five inches long) into the urethra, carrying it onwards about two inches beyond the spot selected for the incision.

The integuments are then carefully and gently drawn down forwards by an assistant; and while thus extended a piece of soft tape, half an inch wide, is put round the penis, and firmly tied, with the knot on the superior aspect of the organ, but not drawn so tightly as to endanger the vitality of the parts after the operation.

The operator takes hold of the diseased parts, previously covered with lint or linen, with the fingers of the left hand, or any suitable instrument, gently pulls it towards him, and with a straight broad-bladed scalpel cuts with one oblique stroke downwards and backwards through the integuments and corpora cavernosa, down to the urethra: the incision should be a quarter of an inch from the anterior edge of the tape, and posterior to the diseased parts.

The cavernose bodies being divided, the knife is carried round the corpus spongiosum, dividing it completely through to the bougie. The diseased part is then removed, and the bleeding vessels secured, taking care that no portion of the erectile tissue be included in the ligature.

Four arteries which arise from the internal pudic will require ligatures, two superficial, and two deep-seated;

sometimes twigs from the principal branches must be secured, particularly if the disease has existed for any time, by which means they have acquired a magnitude of twice their natural size, as well as sometimes twigs from the artery of the septum and external pudic.

Previously to the removal of the tape, let the stump be carefully sponged with warm water, that you may be satisfied that no danger from hæmorrhage exists: the bougie may then be removed.

To stop the oozing of blood from the surface of the stump, apply spirits of turpentine by means of lint rolled into a knob around a common silver probe, but carefully prevent any portion of it from getting within the urethra; during the application of the turpentine, let the parts be exposed to the air.

By this mode of operation the vessels are easily detected and secured; the loss of blood will not in general exceed one or two drachms, a point of great importance in some constitutions.

The patient will be considerably benefitted by the use of a portion of elastic catheter, about two inches long, with a small silver shield at the end, to prevent the urine from coming in contact with the raw surface.

MEDICAL GAZETTE.

Saturday, May 6, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

ENCOURAGEMENT OF QUACKERY.

It is certainly rather mortifying for a man who fancies that he has made some progress in the study of physic, to find, the very next time that he goes into company, that his happiest efforts are outdone by some amateur practitioner—that Mr. Such-a-one, the ironmonger or the brazier, cures every head-ache, ear-ache, or other ache, with an infallible elixir; and that consequently the twenty years' study and experience of the regular practitioner have merely served to make him a good foil to the man of brass.

More mature reflection, however, consoles him; for he remembers that his rival has in his favour, first, the irresistible tendency of many cases to get well—a tendency so strong, that even the most infallible elixir cannot utterly thwart it; secondly, that admiration which every one naturally feels for him who, in the plenitude of his intellectual vigour, can make his recreation of what is the toil of others, outdoing the study of a life-time as a mere half-holiday's task; and last, not least, the fact that this conversion of spirits of lavender into balm of Fezzan—this beatification of cathartic extract—is not simply connived at, but openly tolerated—nay, encouraged—by the law. We say nothing at present of the sanction given by the patent and the stamp to any mess, however dangerous or delusive; we would speak only of the verdicts and sentences of courts of justice.

When the scarifier of Harley-street was convicted of a very aggravated manslaughter, what was the sentence passed upon him?—Was he condemned to a salutary imprisonment of some six or eight months, during which not only the backs that he had so sorely wounded might have healed, but their unfortunate possessors might have recovered their wits? Was he secluded for a while that his victims might go to school again, and learn that though Apollo once flayed a patient, it was not in order to cure him of phthisis? Not a bit of it: a trifling fine was imposed, and the excoriator was sent back to his lair.

Another instance has lately occurred: a weekly newspaper had set forth, in no very courtly terms to be sure, the demerits of certain homicidal pills, and it had also asserted (erroneously, as it appears) that the proprietor of the nostrum was insolvent. The party alluded to brought his action against the Editor of the offending journal with two counts;

the first for the charge of manslaughter; and the second for the accusation of insolvency. The jury found for the defendant on the first count, but gave a verdict for the plaintiff on the second, with 200*l.* damages; that is to say, the jury found that the Editor was fully justified in calling the prosecutor a manslayer, a reckless trifler with the lives of his fellow-creatures, and so on; but that to attribute to him a want of pecuniary success was a serious offence. Now to us it seems, that to assert the failure of a man engaged in an occupation which has avowedly led to manslaughter, almost amounts to praise. It is insinuating that he has a sort of lukewarmness in his dangerous calling; that he wants that unshaken vigour which, though laudable in useful pursuits, adds to the evil of such] as are otherwise.

An old newspaper of Fielding's time (but we do not venture to say edited by the popular author of *Tom Jones*) contains the following passage; and if the language be not quite such as we usually employ, but borders upon the figure of speech called slang, be it remembered that it would be taking an unwarrantable liberty with the original did we adapt it more to ears polite:—

"Many of our readers will be surprised to hear that Jack Knabs, of Bagshot Heath, is going to the dogs very fast. Trade has been so dull for the last two years, that he finds it a hard matter to keep up a respectable appearance. He dares not show his face at the Three Pigeons, where there is an infinite score against him; his followers are daily deserting him; and his pistols (which he cannot replace) are so old and worthless, that he fears he shall be reduced to the ungentlemanly necessity of knocking down his contributors with a bludgeon. Jack talks of whitewashing himself after the established fashion."

Now, we ask, will any sound lawyer say that an action would lie for this

paragraph, if it were conceded on all hands that the occupation of the said Mr. Knabs led to frequent breaches of the law? But there is a case in point, which will save us the necessity of arguing the supposed instance any farther;—we allude to a trial which took place at the Dorset Assizes about three years since.

A gentleman who had obtained the degree of M.D. from the University of St. Andrew's, but who was not a member of the London College of Physicians, was slandered by another physician, who called him an impostor, and said that he was ignorant, and unfit to practise physic. The jury found for the plaintiff, with 20*l.* damages. An application was then made to the court above that the verdict should be set aside, and either a nonsuit entered, or a new trial granted. It was urged, that though the plaintiff had neither an English degree, nor a license from the London College of Physicians, the jury had found for him *quasi* a legal practitioner; but that a physician having only a Scotch diploma was not entitled to practise in England without the College license, and that consequently the plaintiff had been protected in a capacity which the law did not recognize. The following is the termination of Lord Denman's judgment:—"It followed from the authority of that case, that the plaintiff here had no right to practise as a physician in the country without a license from the College of Physicians, although there was not in the statute any penalty imposed upon him for so doing. This action, it was therefore clear, could not be maintained by him in respect of slander upon him in a profession which by law he had no right to exercise. In the case of *Smith v. Taylor**, was a dictum of Lord Chief Justice Mansfield, in which he was supposed to say, that

* 1 New Reports, 203.

since the union a degree conferred by the Scotch Universities had the same effect as a degree conferred by the English Universities. The Court did not think that Lord Chief Justice Mansfield meant to imply any such thing; but if he did, they were of opinion that the dictum was totally unwarrantable by any authority. The verdict given for the plaintiff, with 20*l.* damages, must therefore be set aside, and the judgment of the Court must be given for the defendant*."

To which conclusion, then, must we come? That the jury delivered an erroneous verdict in the case which has led to these remarks, or that the law looks with a more favourable eye on the cockney manufacturer of pills than on the regularly educated Scotch physician?

One more instance of the manner in which our laws deal with empirics, and we have done. WILLIS, alias Moseley, was prosecuted at the Middlesex Sessions last October, for keeping an unlicensed madhouse in Charlotte-street, Bloomsbury, and was found guilty. His old announcements used to inform us that of 500 patients he had cured all but 5; afterwards, of 700 he had cured all but 7; afterwards, of 1000, all but 9; and now, of 1200, all, as far as he knows, but 12; so that Willis, alias Moseley, is not infallible; he resembles not your common quack, but is frail, like one of us. He is no dead shot, but misses twelve times in twelve hundred; he acknowledges himself—oh, surpassing modesty!—to differ from absolute and miraculous perfection by—one per cent.

In January the *alias* was brought up for judgment, and sentenced to twelve months' imprisonment: yet the advertisements which now again daily urge the public to benefit by the success of Willis, Moseley, and Co., would seem to

show either that he has already been set free, or, at all events, that the decision of the Court interferes not with the business of the firm. Such, in this country, is the encouragement given to quackery!

UNIVERSITY OF ATHENS.

AN University was established at Athens (not modern, but ancient Athens) on the 31st of December, 1836. The inauguration took place last month (April.)

MEDICO-BOTANICAL SOCIETY.

Wednesday, April 26, 1837.

THE RIGHT HON. EARL OF STANHOPE,
F.R.S., PRESIDENT, IN THE CHAIR.

AFTER some preliminary business had been gone through, a paper was read from Dr. Hancock, entitled—

"Remarks on the Haiowa, and on some kindred species."

The Haiowa is one of those elegant trees chiefly inhabiting the mountainous regions of Guiana, and highly valued by the natives on account of its numerous uses and applications in their arts and medicine. The author enumerated the botanical characters, and considered it identical with the *Icica heptaphylla* of Aublet and *Decandolle*, and *Amyris ambrosica* of Willdenow. The fruit, leaves, and bark, abound with a sweet odoriferous balsam or gum resin, which (as in other species of the *Amyrideæ*) is yielded much more abundantly on the highlands than on the alluvial coast of Guiana. The plants of the natural family *Amyrideæ*, Dr. H. observed, appear to be multiplied and confounded, and some extraordinary errors are entertained regarding their balsamic products, the production of the *Worary* poison, and that of the *Ticunas*, having been attributed to one of the species, (*A. toxifera*)! The balsam or gum resin of the Haiowa exudes from the trunk and branches either naturally or from incisions made in the tree; and may be collected in great abundance in the dry season and about the full moon; when its exhalations load the air with a grateful odour. The fruit also is replete with the balsam, and of a bitterish subacid taste; its properties, no doubt, being much the same as the famed carpo-balsamum formerly known in the shops. Dr. H. then

* See also MEDICAL GAZETTE, vol. xiv. p. 392-3.

described some other trees of the same natural family; and so abundant are these exudations in different parts of Guiana, he had no doubt that shiploads might be brought here, and would serve for giving strength and durability to cordage, with far greater advantage than pitch and tar. The Indians, amongst other uses, mix it with anoto paint and oil of carapa, for anointing their bodies. The author considers, that were the Haiowa collected and preserved, as described of the balsam of Gilead (to which it is very analogous in chemical and medical properties), it would be found to possess equal or greater virtues—that is, by drawing it into bottles and keeping it closely worked; for it hardens and becomes brittle by long exposure to air. The Haiowa is regarded by the natives as one of their most sovereign remedies. The bark is by them much valued in fevers and dysentery. They make a strong decoction of it, and take large draughts, so as even to cause vomiting and perspiration. This is their most usual mode of taking medicines in general; and, as might be supposed, it is often attended with very decisive effects. They think little of taking two or three vomits *per diem* when labouring under fever or dysentery. Diseases, indeed, being there more violent, demand more decisive measures. They not only take the decoction internally, but form baths of the same, for assisting the transpiration; and they regard this, the Haiowa, as very powerful against spasms and convulsions, palsies, nervous diseases, &c. The gum, or balsam itself, is considered as a very great restorative in atrophica or emaciation, coughs, and hectic.

At the conclusion of the above paper, specimens were exhibited by Dr. Mancock of the far-famed worary poison of the Macoosie Indians of Guiana, together with a case of arrows pointed with the same. This led to a conversation of much interest, on the mode of preparing the poison, its effects, and on the plant from which it is procured. A dried specimen of the latter, but very much decayed, was handed round. This was procured at the expedition of 1810, from the Mountain Courantine (*i.e.* mountain of the otter) on the Rio Parime. It was undoubtedly a species of strychnos, although the flowers have never been found by any botanist.

Mr. Iliff observed, that he had in his possession an arrow tube from Java, apparently similar to, or answering the description of that used for the worary, and another from the same place was also contained in the Museum of the Royal Asiatic Society: the poison, however, used by the Javanese, was thought by Mr. Judd not to be of the strychnos kind, but a prepara-

tion from the Upas tree; and he further explained the convulsive and painful effects produced on animals by strychnine.

Mr. Iliff said he would be glad to experiment upon rabbits with the worary poisoned arrows, and report the same at an early meeting of the society.

ROYAL INSTITUTION.

Friday, April 28, 1837.

Resistance of Iron to the Action of concentrated Nitric Acid—Inferences connected with Galvanism.

THIS evening Mr. Faraday delivered to a crowded audience a lecture of very great interest, on certain newly-discovered relations of iron towards chemical affinity and the electro-magnetic influence. He illustrated the general nature of the subject in a very beautiful manner; but we must confine ourselves to his remarks on iron.

It appears that although iron possesses a strong affinity for oxygen, yet it is not acted on by concentrated nitric acid, while the addition of water immediately causes intense action. This peculiarity of iron adds to the interest which it already possesses, on account of its occasional meteoric origin, and the extraordinary changes produced in it by the addition of carbon, silex, &c. Mr. Faraday has found that a mixture of equal parts of water and strong acid just begins to act on iron in the lowest degree, while its action may be much increased by the addition of more water. Iron which has remained for some time in the strong acid (and a piece was exhibited which had remained for 11½ months unaltered in the concentrated acid), acquires such a condition as not to be acted on by the dilute; yet if, when immersed in the dilute acid, it be touched with a piece of common iron, its state is altered, and it is acted on as usual; and again, on being touched with platinum, it regains its former state in which the action of the acid is withstood.

By former experiments (and it was by this train that Sir Humphry Davy was led to his beautiful mode of protecting the sheathings of vessels), it has been found that copper and some other metals, when in contact with iron exposed to an oxygenating influence, accumulate the corrosive action on the iron; while here the case is reversed, the platinum exercising a preservative influence over that metal. Iron is found to overcome the force by which copper is held in combination with other bodies, and copper the combining power of silver; but, nevertheless, what was not at all to be expected, iron (we understood

the lecturer to say) does not destroy the combinations of silver, and silver is found to preserve in iron the same way as the platinum. This forms a strange anomaly in the phenomena of chemical union, and its explanation will be very important in determining the laws of affinity.

In conclusion Mr. Faraday remarked, that these discoveries as to the properties of iron set at rest a long agitated question, and prove that voltaic action is not owing to metallic contact, but to chemical action; metallic contact merely affording a channel for the flow of voltaic currents. When iron is placed in strong nitric acid, a certain degree of action is at first excited, which immediately affects the galvanometer; but as soon as this slight action subsides, although the metallic plates remain in contact as before, the galvanometer is not at all influenced.

Mr. Faraday then exhibited what may be termed the *experimentum crucis* on this subject. A small galvanic arrangement of zinc and platinum, consisting in fact of only four plates, was used, in which metallic contact was prevented by the interposition of pieces of paper. These papers were moistened with dilute nitric acid, and a solution of iodide of potassium respectively; and when the circle was completed the iodine was thrown down, the common effects of chemical action being thus displayed without any metallic contact whatever.

A lecture on Tin, by Dr. Boose, of Cornwall, was announced for next evening.

ON THE

EXPECTORATION OF BLACK MATTER FROM THE LUNGS.

By GEORGE STEELE, Esq., Surgeon,
Musselburgh.

[THE following is an extract from the paper to which we alluded in our notice of the volume of the Medico-Chirurgical Transactions lately published, and for which we have not till now been able to make room.—ED. GAZ.]

The black matter expectorated by colliers is of two kinds. One is simply the coal-dust inhaled while the individual is at work, and this is spit by every collier, the quantity varying according to the nature of the coal and the manner in which it is worked. Thus, if the air be confined, and if the coal be dry, and if it be worked in a manner which is technically called *shearing*, the quantity of dust inhaled is considerable; whereas, if the coal be wet, and if, as sometimes happens, there be a

current of air blowing in a direction *from* the miner, and more particularly if the workings are conducted according to the *long-wall* method, the quantity is comparatively trifling. The dust thus inhaled is never considered by the workmen as at all dangerous, and is generally wholly expectorated in a few hours, or at most in a day or two after exposure. The miners are of opinion that eating largely of fresh butter facilitates its expectoration.

The other kind of black matter is of a very different nature, being generated in the lungs themselves. It does not, however, seem to be connected, either as cause or effect, with any seriously morbid condition of the pulmonary structure, as it may be perceived more or less impregnating the sputa of many miners who do not suffer from any pulmonary complaint. When its formation has once taken place, it appears never afterwards entirely to leave the lungs, but maintains its existence within the body during the remainder of life, and this, although the individual afflicted with it does not continue to work as a miner. When the disposition to produce it has been created, that disposition continues after the cause has been removed. D. Wilson, a miner, was not under ground for twenty-four weeks, and during the whole of that time had black spit. He is a stout healthy man about fifty, of florid complexion, and never had a pectoral complaint. This man's wife has not been in a pit for fourteen years, and has a constant black spit without any pectoral complaint. T. Ross, after having been a number of years employed as a miner, was at sea for three years; and during the whole of that time his sputa were never perfectly free from a black impregnation. I could cite numberless cases similar to these.

There are no men at any of the coal-works which I attend who are employed in removing, with the aid of gunpowder, the free-stone which separates the different layers of coal, but a number of workmen are employed in removing a stratum of stone lying above the coal. This is done for the purpose of heightening the roads after the coal itself has been removed by the collier, and this is effected with picks and wedges. The work is all above head; a great quantity of stone-dust is inhaled by the men, but they do not complain of it as injurious. The men who do this work are, however, employed at it only two or three days in a week, and sometimes not so much.

I consider the pulmonary disease of coal-miners to be excited chiefly by two causes, viz. running mines in stone, and working in impure air. In running stone-mines the workmen use gunpowder; there

is often little, and sometimes no ventilation; and the air is loaded with stony particles, with gunpowder-smoke, lamp-smoke, and sometimes, though not always, with choke-damp. This kind of work is a fertile source of evil, and if persisted in, sooner or later produces incurable disease in those who are engaged in it. The morbid affection thus induced is chronic bronchitis, and exhibits all the ordinary symptoms of that disease. It commences with a trifling cough, which is troublesome only in the mornings; and after the expectoration of a greater or smaller quantity of frothy mucus, it goes off, giving no further trouble until next morning, when the secretion of the preceding night excites a renewal of the cough for its expectoration. In this state matters continue, sometimes for several years; the man determines to give up stone-working, and does so for a time, but the inducement of a higher rate of wages again tempts him to his destruction. The complaint advances; the cough becomes more severe; the secretion from the bronchia more copious, and more difficult to be brought up: the individual complains also of tightness across the chest, shortness in the breathing, with a sense of fulness and occasional pulsation at the epigastrium: he feels himself getting unable for the same exertion as formerly; and when interrogated about the cause of his complaints, invariably ascribes them to stone-work and bad air. This man never recovers. He lays himself off work, and perhaps gets considerably better; he also gives up stone-working, and returns to coal; but it is now too late; the evil is done; his bronchial membrane is in a state of chronic inflammation, and the coal-dust, which formerly was all but innocuous, now aggravates the morbid condition. Again he must drop working; he has frequent head-ache, and an aching weariness in the back and loins; his cough becomes more constant and more severe; sometimes it is very troublesome during the night, but in by far the greater number of cases, after passing a few hours during the early part of the night in unrefreshing sleep, he is awake with sometimes an intense feeling of suffocation; his lips and face become livid; he throws his body forwards, and grasps his knees with his hands, that being the only attitude in which respiration can be carried on. After a short time a fit of coughing commences, which ends in the slow expectoration of a great quantity of tenacious glairy mucus, and leaves the patient in a state of complete exhaustion. The sputa are sometimes of a yellowish colour, often grey, and occasionally black; they have also at times a puriform admixture, and are not unfrequently tinged with blood. If the

individual thus attacked be under 40 years of age, and if he take care of himself, he may still be restored to the enjoyment, for a time at least, of tolerable health; but if towards fifty, there is no hope for him; he gradually becomes emaciated; his countenance becomes wan and anxious, his skin shrivelled, the veins on the surface prominent, the shoulders high, and the body bent forwards. He drags on a wearisome and unenviable existence, sometimes for a number of years, and occasionally attempting some trifling employment for a day or two at a time; but his dyspnœa and cough increasing, he gradually declines, and dies from exhaustion.

In other cases, although the bronchial affection is the first of which complaint is made, still, when medical aid is applied for, disease of the heart is the more prominent symptom. This seems to be induced by the impeded circulation in the lungs, the consequence of the long continued inhalation of air impregnated with carbonic acid gas. The same circumstance also causes engorgement in the hepatic and mesenteric vessels, giving rise to abdominal pain, to hæmorrhoids, the discharge of black stools, or of dark blood in an unmixed state from the anus. In other cases the determination is to the head, and relief is often obtained by the discharge of black blood from the nose. I consider coal miners to be peculiarly liable to disease of the heart, and to aortic aneurism.

2d. My experience does not enable me to say whether other miners are equally liable to this disease with coal-miners, as all those who are employed in stone-mines at the collieries here, work also, when not so employed, as colliers. But I should think that other miners must be equally liable to the bronchitic affection, and when this exists, the presence or absence of black spit seems of little consequence as regards either the progress or termination of the disease. I form this opinion from the fact, that those who restrict themselves to the working of coal are not peculiarly liable to pulmonary complaints; and they are as long-lived and as healthy as any class of labourers whatever. The temperature of the place in which they work is almost always warm and equable; they suffer little from any inflammatory complaint excepting rheumatism, and tubercular phthisis is among them a rare disease. I am informed of several robust-looking men, who wrought merely as sinkers of pits and not as miners, who fell victims to pulmonary disease, and some of whom had black spit; this, however, is not in my experience a common occurrence in the case of mere sinksmen. Some individuals are little injured by stone-

mining compared with others. Abram Bennet, aged 68, is a stout erect man, who has wrought a great many years (about fifteen) at stone-work. He has been a sinksman and has run many stone-mines, both in coal-fields and lime quarries, and at other times worked as a collier. He complains neither of cough nor dyspnœa. There are others also, with whom I am acquainted, who have enjoyed a similar immunity from disease. Much depends upon the nature of the minerals through which the mine is carried; and in the Mid-Lothian coal-field the edge seams are considered to be in a much greater degree injurious than the flat. This is owing chiefly to three circumstances:—1st. In the edge seams the strata are not so much impregnated with moisture. 2d. The cutting process by the pick of the miner is carried on more upon a line with his own face, and hence more dust is emitted and inhaled. But the principal reason is, that the stone contains some poisonous matter which is probably of a metallic nature, as the workmen complain of its exciting a styptic and metallic taste in the mouth. A mine was carried across the strata in the Niddry estate, the finishing of which required a number of years. Six or eight of the miners employed in it died; several were obliged to leave it, and only one of those who commanded it was able to work in it throughout and lived to see it completed. There was a particular stone in this mine, which was repeatedly met with, and to which the miners gave the name of arsenic, which was found highly pestiferous: its exact nature I am not acquainted with. In a stone-mine run some years ago in the Newbattle field, a great many men died, the average length of time each of the miners employed in it lived, being about two years. The mortality was ascribed to the nature of the stone.

3d. The period of life at which the disease occurs must vary according to the length of time the individual has been exposed to the exciting cause, and to natural difference of constitution; and it must depend also on the nature of the minerals in which the mining operations are conducted. I have often seen it prove fatal about the age of from fifty to fifty-five.

4th. From the description above given may be gathered nearly all the information which I am able to give in regard to the course of the disease. It differs from ordinary tubercular consumption in being seldom attended with hectic fever, and never with the distinct and well-marked hectic of the latter. In the disease under consideration the dyspnœa is in general much more distressing than in any cases

of phthisis which I have witnessed. The emaciation is not so extreme. There are seldom colliquative sweats or diarrhœa. The fulness and frequency of the pulse met with in tubercular phthisis are not concomitants of this affection. In a great majority of cases phthisis makes its attack, and proves fatal much earlier in life than this disease is ever met with; and in the latter there is a livid discolouration of the lips and hands, and sometimes of the face, and not unfrequently anasarca in a greater or less degree.

I regret that I have not kept notes of the post-mortem appearances in any of the bodies which I examined, with the exception of only one or two; and in these my attention was more particularly directed to the morbid condition of the heart than of the lungs. Indeed the state of the bronchia has been so uniformly the same, or nearly so, that of late I have not in every case minutely examined it. The mucous membrane is highly vascular, generally soft and swollen, and not unfrequently ulcerated. The lungs in several cases contained black, carbonaceous-looking matter, lying along the course of the bronchial tubes, and enclosed in bags of cellular membrane. I have seen it sometimes distributed through the lungs in little nodules; and in one case which I distinctly recollect, this black matter pervaded their whole substance, and the hand of the dissector, on being withdrawn from the chest, after the substance of the lungs had been cut into, had the same appearance as if it had been dipped in a basin of thick charcoal and water.

It may not, perhaps, be unworthy of being mentioned, that while stone mining seems injurious, chiefly, if not solely, to the pulmonary structure, the deleterious effect produced by the inhalation of choke-damp is exerted principally upon the heart. I have often thought that the production of the black pulmonary matter resulted rather from some condition of the system produced by the circulation through it of imperfectly-oxygenated blood, than from any direct effect produced merely on the lungs by the inhaled stone-dust or impure air.

ROYAL INFIRMARY, GLASGOW.

IN the report for the year 1836, the following facts are detailed:—

Proportion and Duration of Cases.

Of cases of fever or febrile disease, there were 98 remaining in the fever house on the first day of last year, and 3255 have been admitted since—making, in all, 3353.

The fever ward, on December 31, 1836, contained 228 patients; therefore 3125 cases have been, during the year, treated to a conclusion in this department; and of these 498 have died, and 2627 have been returned to their friends fully restored to health.

There is recorded a weekly enumeration of the patients remaining in the whole house every Saturday throughout the year; and the sum of these enumerations, divided by 52, gives 327, nearly the whole average number of resident sick; or separately taken for the different departments, 153 for fevers, 74 for ordinary medical, and 100 for surgical cases. The variable number of patients, therefore, according to this census (and it is probable the average would be nearly the same if calculated from a daily record), would come to an equal amount of expense as if the precise number of 327 individuals had been constantly resident in the house for the whole year. The highest number (420) was on the 24th of December; and the lowest (287) on the 7th of May.

The average duration of residence in the house has been, for each fever case, 18 days; for each ordinary medical case, 29 days; for each surgical case, 34 days; for each patient of every kind, taken indiscriminately, 23 days.

The number of patients this year compared with last year:—

	Admitted.	Dismissed, or Dead.	Average Residence.
1835 ..	3274	3260	254
1836 ..	5253	5130	327
Increase this year }	1979	1870	73

The proportion of deaths to the cases treated has been above the usual averages; that is, for fever, 1 to 6 3-10th; for ordinary medical, 1 to 6 4-5ths; for surgical, 1 to 15 1-3rd; for all patients taken together, 1 to 7 3-10ths.

Expense of Patients.

The expense of each patient, taken in its fullest extent, comprehends his equal share of the whole ordinary expenditure—that is, repairs, furniture, and incidental charges, as well as salaries, medicines, and provisions. This entire sum, amounting during the year to 6135*l.* 6*s.* 8*d.*, divided by 5130, the whole patients, dismissed or dead, gives 1*l.* 3*s.* 11*d.* the average sum which the treatment and maintenance of each patient, one with another, costs the establishment. Otherwise, if the above sum, 6135*l.* 6*s.* 8*d.*, be divided by 327, the average number of beds occupied throughout the year, the quotient 18*l.* 15*s.* 3*d.* will be the expense of each bed constantly occupied for the whole year with a succes-

sion of patients. If we restrict the expenditure to the salaries, medicines, and provisions, leaving out the repairs, furniture, and incidents, the amount, now reduced to 4957*l.* 8*s.* 6*d.*, and divided as above stated, will give 19*s.* 4*d.* for the net expense of each patient, and 15*l.* 3*s.* 2*d.* for the annual charge attending the continued occupation of each bed. If we confine ourselves to provisions alone, the expenditure, thus farther restricted, being 3479*l.* 6*s.* 6*d.*, and subjected to the same calculation, will give 13*s.* 7*d.* for the average cost of provisions furnished to each patient, and 10*l.* 12*s.* 9*d.* as the sum required to supply provisions to all the occupants in succession of each bed for the whole year.

Fever in Glasgow.

Fever, both from its own importance as a disease, and from the numerous demands which of late years, and particularly during the last, it has made for admissions into our establishment, has a fair claim for a large share of our attention on this occasion. For the first twenty years of our history, fever patients did not exceed one-tenth of the whole, and these few found ample accommodation in the side rooms adjacent to the medical wards in the front building. During 1816, when fever cases became more prevalent, a back attached building was erected, intended at that time solely for their reception. In 1818, however, the epidemic broke forth with a violence unusual in the district; and the whole establishment, even with this addition, was inadequate to receive the sufferers. During this year, above 1360 fever cases were treated in the house, while the whole patients, of all kinds, did not amount to 2300. At the same time, about 1900 cases found admission into a temporary hospital at Spring-gardens, maintained by a separate subscription, and under the management of what was then called the Fever Committee.

For thirteen years after this, the progress of the disease was various; sometimes abating, and at other times becoming more violent, so as to force the managers, on several occasions, to have recourse to temporary places of accommodation to meet the demands for admission. In the summer of 1831, the epidemic was unusually mild, and the south wing of the Fever House would furnish sufficient accommodation: but in November, every part fit for the reception of patients was crowded to excess, and one-half of the applicants did not receive admission. On this emergency, the Board of Health for Cholera, out of funds raised by voluntary subscription, procured and maintained a temporary hospital for fever. It was opened in January next year, and

during six months gave admission to 1145 patients. During last year (the year the history of which we are now detailing, particularly the latter part of it), an exacerbation of typhus has taken place, as severe as those which happened in 1818 and 1831; and yet, from our extended accommodation, all the applicants have, till very lately, received prompt admission into our wards. In the first quarter, the admissions of fever patients were 438; in the second, 721; in the third, 873; and in the fourth, ending on Saturday last, December 21, 1836, no less than 1223: making in all, 3255. This number is considerably higher than the whole amount of cases in 1818 and 1831, both those treated in the Infirmary, and also the cases received during these years into the respective auxiliary hospitals.

For the preceding statements we are indebted to the *Annals of Medicine*, into which they are copied from the *Glasgow Argus*.

PREGNANCY WITH IMPERFORATE UTERUS*.

REPORTED BY MR. TWEEDIE.

ELIZA P—, aged 23 or 24, an Irish woman, residing at No. 105, Little Suffolk-street, Southwark, a patient of Guy's Lying-in Charity, was taken in labour, with her first child, on the 14th or 15th of November, 1836. Mr. Roe, the gentleman to whom the case had been entrusted, was called to her at seven o'clock in the morning. He was informed that she had been in strong pain since the preceding evening, but there had been no shew as yet. Mr. Roe observed the pains to be very urgent and very powerful; but although he remained several hours with her, he had not succeeded in discovering the os uteri.

Puzzled with this novelty (for he had attended a great number of confinements), he requested me to visit her. It was now two o'clock; the patient was on her bed. On examination I found a firm, uniform, globular mass, forcing down into the vagina at every pain (which was of great force), but no irregularity upon its surface could be detected; and a very careful examination of the entire vagina, whose extremity was easily reached at all points, failed in detecting the os uteri. As her bowels had been confined for two days, Mr. Roe had administered a dose of castor oil; so we waited a few hours to see what nature would do, as well as to afford the oil time to operate.

In the evening I again met Mr. Roe, to

see the patient. Labour-pains had persisted, and were of unusual severity; the castor oil had acted once. A most careful investigation of every part of the vagina failed to detect any os uteri. At the upper part of the canal, at each pain, there was forced down this tight, tense, globular body, of the bulk of the child's head; and conveying the impression of an entire uterus, without orifice.

About the spot where the os uteri should have been, was a minute portion, somewhat thinner than the surrounding parts; but the whole was uniformly smooth, and contained no break whatever.

On the receding of the mass, in the absence of the pain, something like a child's head could be felt within.

Inquiries were now made, and the following facts elicited:—

Mrs. P— was married on the 4th of February preceding, 1836. Since the age of 14 she had menstruated every four weeks, sometimes every three weeks. The discharge was always pale and scanty, and continued from two to three days. She never suffered pain at those periods. She has not menstruated since her marriage.

Both before and subsequent to her marriage she has had robust health; and, in the necessary duties of her vocation, has undergone an unusual degree of laborious exertion; but she has not had a day's ill health. For two or three days before labour came on, she noticed a rather copious reddish discharge, that continually drained from her; but there was no pain. On the subsidence of this, about the 12th, slight pains in the back were felt, which went on till the night of the 14th, when they assumed the severe and urgent character which occasioned her to summon her medical attendant at the time already stated.

Having satisfied myself, at this second examination, that there really was no orifice into the uterus, and the pains continuing of a severe character—and the existence of a living child being proved by the pulsations of the foetal heart, which were distinctly audible, about twice as fast as the mother's pulse—I sought the advice of Dr. Ashwell.

The Doctor lost little time in arriving: and having, by a most careful investigation, positively confirmed the statement of the condition of parts already made, he determined upon losing no more time in making an artificial opening across the above-named spot, where the globular body seemed slightly thinner than elsewhere. The patient's pulse was about 120 to 130, very irritable; the pains violent; the skin irregularly hot and cold; the features anxious; the mind irritable; general restlessness: the bowels had now been twice relieved by castor-oil. Accordingly, hav-

* Guy's Hospital Reports for April.

ing placed her on her left side, the Doctor introduced his left forefinger as a director; upon which he passed up a curved, sharp-pointed bistoury with his right hand; and having punctured the spot already fixed upon, he incised forwards towards the bladder (which was empty), and backwards towards the rectum. At this last incision a few drachms of dark blood flowed out. The liquor amnii of course escaped; and the head fell upon the artificial opening, which proved to be of the diameter of an inch and a half, or perhaps nearly two inches, and about a line in thickness.

The Doctor did not incise laterally, lest he should wound any of the branches of the uterine arteries. At one o'clock, A.M. of the 16th, he left the patient in charge of Mr. Roe and myself. The pains abated for a brief space after the operation, the performance of which occasioned no suffering; so that she seemed not to be conscious of any thing beyond the inconvenience of manual interference. Pains, however, recurred; but little advance at dilatation appeared to be made for some time, till about four, A.M., when under the influence of a severe pain, the edge of the orifice tore suddenly towards the right side; and soon after, another rent took place, whilst my finger was at the part, backwards, towards the left sacro-iliac synchondrosis. At this she became faint; the pulse was 140 or 150, feeble; the skin cold and clammy; and she fell exhausted. Æther, ammonia, brandy, and opium, were administered, and she rallied. After resting for about two hours, pains recurred gradually, and became as powerful as at any previous time.

The extent of the laceration on the right side could be reached by the finger; it had not extended to the reflexion of the vagina: that on the posterior pas was beyond reach. No gush of blood attended these lacerations. The head became engaged in the pelvis, and was delivered at 11 A.M.

The latter pains were very inefficient; and much stimulant was administered towards the close. With the child there was a more than usual degree of hæmorrhage; the infant (a male) was asphyxiated, and was with difficulty revived.

The placenta was taken away in half an hour, and the uterus contracted well. Nothing further could now be detected on examination, but several ragged shreds about the orifice at the top of the vagina.

The tongue was dry, and brown at tip; the head ached; the pulse was 110, jerking (doubtless referrible, in some degree, to the stimulants). Towards the close of the labour, the bowels had afforded three copious motions.

Liq. Opii sedativ. ℥xl. statim.

And, to meet the expected re-action,

Haust. Efferves. c. V. Ant. Tart. et Tinct. Hyoscyami aa. 3ss. Barley-water.—Quiet.

[She was treated by means of opiates and effervescing draughts till the 20th, when milk appeared abundantly in both breasts. The medicines were then omitted, and the breast-pump used.

Dec. 4th.—Had a little quina, being still weak. From this time she progressively recovered. An examination was made, of which the following is an account:—]

The vagina is short; its extremity, and every part of it, can be readily reached by the shortest fore-finger; it presents no other peculiarity.

There is no cervix uteri. The uterus seems reduced nearly to a normal unimpregnated size. At the extremity of the vagina there is a puckered irregular orifice, into which the tip of the finger can enter: it is soft, with smooth and thick edges, not perfectly circular, in consequence of certain indentations, as if from the drawing together of several small rents.

It might be compared to the base of an apple; whilst this part of a normal uterus would better resemble the apex of a pear.

Radiating from this central aperture can be distinctly felt three ridges, like lines of adhesion; one passing forwards, towards the right ilio-pubic junction, traceable nearly to the reflexion of the vagina; one opposite to this, backwards, towards the left sacro-iliac synchondrosis, whose extremity is lost in the reflexion of the vagina; and the third, of short extent, about one-third of an inch long, passing backwards and to the right. These were distinctly ascertained, by both Mr. Gaselee and myself, to centre in, or radiate from, the aperture above named.

REMARKS.—This case is so singular, and is so accurately detailed, that it is scarcely necessary to make more than a single observation. I am not aware that a precisely similar instance is any where recorded; nor do I think that there can be any hesitation about the treatment proper to be employed. The safety of the incision consists in its prevention of limited and extensive laceration. So long as the division by the knife, and the subsequent tearing of parts, is confined to the os and cervix, and does not extend beyond the reflexion of the mucous surface of the vagina over these parts, recovery is highly probable: whereas, if the parts be left to rupture of themselves, the body and fundus of the uterus, and their peritoneal investment, are pretty sure to be implicated, and the result will most probably be fatal.

TREATMENT OF INFLAMMATION.

To the Editor of the Medical Gazette.

SIR,

As Mr. Searle appears to be confident that his new doctrine will, ere long, be embraced by the profession, and as he seems to have no objection to continue the controversy which for some time past has existed between us, I beg, in reply to his last letter, to say, that I think he fails to show that the treatment which was found to be most successful in the influenza that lately prevailed ought to be looked upon as a proof of the soundness of the new views which he has promulgated. The point to be determined, as far as regards the present controversy, is, whether the inflammation which attended the late epidemic catarrh was of a peculiar nature, or merely the common kind of inflammation which is every day met with. The latter is the opinion which Mr. Searle entertains, and which he supports by endeavouring to show that the disease in question arose, not from malaria, but from a change in the temperature of the atmosphere, implying, of course, that such a cause could not give rise to a peculiar disease; but surely every one knows that common catarrh, even when treated by the antiphlogistic method, is far from being a very dangerous complaint; and if the influenza had been only common catarrh, why was it, as Mr. Searle states, so "dreadfully fatal a disease"?

In common inflammation, (in pneumonia, for example), it certainly cannot be denied that blood-letting in general relieves the pain in the chest, and the difficulty of breathing, without causing more weakness than might be expected from the quantity taken; but, in the late epidemic, when venesection was had recourse to, the debility which followed afforded, in my opinion, an unequivocal proof that the complaint was of a peculiar nature,—indeed, it was so much greater than we had been accustomed to witness in cases of common inflammation, that many practitioners were on that account led to look upon the influenza as a disease not of an inflammatory nature at all. But although I must admit that inflammation did frequently attend that complaint, yet, being modified, as I said in my last letter upon this subject, by the debilitating epidemic malady, it was in its nature very different from acute idiopathic pneumonia or bronchitis, and required for its cure a different kind of treatment. The new doctrine ought not, therefore, I still think, to be tested by the late influenza,—a disease, the most striking feature of which was debility. No; if Mr. Searle's practice is

to receive a just trial, its effects ought to be observed in cases of pure, uncombined inflammation; and in order to afford a fair field for carrying on our controversy, I beg to request that Mr. Searle will do me the favour to answer the following questions, which will enable me to understand in what way the new nourishing plan of treatment cures acute idiopathic inflammatory diseases.

Question 1.—Supposing a strong healthy person to be attacked with acute enteritis, how ought he, according to the new doctrine, to be treated? A case of this kind lately fell under my observation. When I first saw the patient, who was a very strong man, he complained of pain in the bowels, which was greatly increased by pressure, of nausea, vomiting, and restlessness. His pulse was small and quick, his tongue white, and skin hot. I ordered a large quantity of blood to be taken, which, on cooling, was cupped and very buffy; I also directed twenty-four leeches to be applied to the abdomen, and warm fomentations to be afterwards had recourse to. On the following day the pain in the bowels was greatly relieved, and the vomiting much less frequent; the pulse was fuller than on the preceding day. I directed thirty ounces of blood to be again taken, and the warm fomentations to be continued. Next day the patient said that he felt much better, that there was but very little pain in the bowels, that his stomach retained whatever it took, but that he had not had a stool for several days. I prescribed a dose of castor oil, ordered a large blister to be applied to the abdomen, which rose well, and, with the assistance of some of the other means which are usually had recourse to in enteritis, the patient soon became convalescent. Now in this case I certainly had no cause to regret the practice which was followed, for it was perfectly successful; but if I had ever wished to have given Mr. Searle's new plan of treatment trial, I could not have done so, because the patient's stomach would have effectually opposed it,—indeed, it was not until after a large quantity of blood had been taken that it would retain even a draught of water.

Question 2.—In cases like the above, where the stomach is so irritable that nourishment cannot be taken, is the old antiphlogistic practice which, according to the new doctrine, must be worse than leaving the patients to nature, to be had recourse to, or is nothing to be done at all?

Question 3.—How does nourishment, by increasing the general circulation, as it necessarily must, cure inflammation, which certainly is either the cause or the effect of increased vascular action?

Question 4.—In what way does the fearless administration of nourishment remove the delirium which so often attends acute phrenitis, without increasing the action of the blood-vessels, and quickly leading to a fatal catastrophe?

I trust that Mr. Searle, bearing in mind the objections which, in my first letter upon the subject of the new doctrine, I made to his explanation of the manner in which nourishment and stimulants act in inflammatory diseases, will answer the above questions in such a way as will induce me to become a "convert;" for as this is the age of the "march of intellect," and as "advancement is" of course "the order of the day," instead of "moving with the tide only," I beg to say that I am very willing at once to give up the old, and to adopt the new doctrine, provided Mr. Searle can only convince me that, by so doing, I should abandon error and embrace truth.

I have the honour to be, sir,

Your most obedient servant,

INVESTIGATOR.

April 29, 1837.

NAVAL SURGEONS.

To the Editor of the Medical Gazette.

SIR,

It is with much pleasure that I observe your pages open to the exposure of that strange anomaly which to this day exists in the navy, of placing the assistant-surgeon in the cock-pit; and I am the more gratified as I attach so much importance to the high character your journal has always sustained for truth and impartiality, and the consequent weight it possesses among your numerous classes of readers. I only regret that your attention has not been called earlier to this important subject, as I am persuaded much evil has happened, and much will follow from the ignorance which prevails among the younger branches of our profession desirous of entering the navy, as to their real position in it. Let the truth be spoken—let a faithful picture of the state of the assistant-surgeon as it now exists, be drawn—his general treatment—his rank—his situation—his associates; and when this is fairly done, let me ask, what respectable young man, however ardent his pursuit of science, or however great his predilection for that service, would submit to such ignominious usage. But the object of my present letter is not to enter into such details, but to inquire why the medical department has not kept pace with the general improvements of the navy, and at the same time to show the necessity of discretion among naval surgeons as to the channel through which they in future publish their grievances. I believe the

reason why many of their complaints remain unredressed, is now pretty generally admitted among naval men. It may be in the memory of most of your readers that a few years ago considerable noise was made by the appearance of an extraordinary order from the Board of Green Cloth, which apparently excluded naval surgeons from the presence of his Majesty; but the result proved that no slight was ever intended, and that the temporary exclusion which unavoidably existed would have been shortly removed by an improvement contemplated at that time—namely, to make surgeons "commissioned officers"—the circumstance of their being warrant officers forming an obstacle to their presentation at court. But why was not that resolution carried into effect? The reason is obvious: it is referred, and justly so, I believe, to the impetuous and untimely interference of the editor of another journal, who forcing his assistance upon men stung to the quick by an imaginary insult, and who in the agony of the moment were ready to league themselves with any person however desperate, formed that unhappy alliance, and making their misfortunes an instrument for disturbance, drew down the displeasure of those who were alone willing and able to assist them. A few weeks ago that change was effected after having been *withheld* seven years, insomuch that naval surgeons now rank as commissioned officers. It is therefore quite evident that if a proper course had been then pursued—if the circumstance had been referred to any respectable periodical at that time—if its nature had been inquired into and its impropriety demonstrated without any exaggeration for party purpose, there is little doubt but that such remarks would have met with due attention, and even hastened the change then in contemplation; and it is most likely had such a plan been adopted, the year 1837 would have seen the present claims of the assistant-surgeon satisfied. However, this teaches a lesson, though at a dear rate, and I hope it will have a salutary effect in showing the importance of caution and respectful remonstrance on these occasions. I cannot but now hail the event with joy, as it clearly proves that affair to be forgotten; and I trust that Sir W. Burnett, who I know has ever been a kind and judicious friend to the medical officers under his care, will take into serious consideration the subject of those letters which have lately appeared in your journal; and I need scarcely add how much would be valued any remarks from your own pen, advocating the cause of the assistant-surgeon, in that upright and manly way for which you are conspicuous on all occasions, and which has procured you so much popularity and influence.—I remain, sir,

Your obedient humble servant,

London, May 1st, 1837.

MADDOCKS.

TABLE IV. — DIPTERAL L

Family and Genus.	Larval Species.	Authority.	Country.	Reference.
MUSCIDÆ.				
<i>Musca.</i> Case 1.	Larvarum, Lin.	Dr. Pickells.	Ireland.	Trans. Co
Case 2.	Vomitoria.	Dr. Thomson.	Ireland.	vol. v. p
Case 3.	Cæsar?	Dr. Thomson.	Ireland.	Ditto, vol. v
<i>Muscidæ,</i> Case 4.	Minute dipterous Larvæ.	Dr. Thomson.	Ireland.	...
Case 5.	Carnaria.	Roulin.	Asbornby, Lincolnshire.	Ditto, vol. v
Case 6.	Carnaria.	Jules Cloquet.	....	Kirby and
Case 7.	Carnaria.	Brera.	....	vol. i. p
Case 8.	Species unknown, 18 examples.	Wohlfart.	....	...
Case 9.	Species unknown.	Dr. Latham.	England?	Bremser,
Case 10.	Ditto.	Mangles.	....	Annale de l
Case 11.	Ditto.	Dr. Brooks.	England.	Entom. p
<i>Musca.</i> Case 12.	Domestica, 2 larvæ of.	Mr. Fourcalt.	France.	Med. T
Case 13.	Domestica.	Isidore Geoffroy.	....	Owen Catal
Case 14.	Species unknown, larvæ numerous.	Ruyschius.	....	letter
<i>Muscidæ.</i> Case 15.	Larvæ unknown.	Rev. L. Jennings.	Cambridge.	Ditto, 6
Case 16.	Species unknown, 50 larvæ.	W. Sells, Esq.	Jamaica.	Echo du M
Case 17.	Larvæ unknown.	Ditto.	Ditto.	viii. p.
Case 18.	Larvæ of.	Ditto.	Ditto.	Thesau. An
Case 19.	Larvæ of a blue-fly; 235 specimens.	Ditto.	Ditto.	i. p.
<i>Musca.</i> Case 20.	Domestica.	Brera.	....	Clark, Hist.
<i>Muscidæ.</i> Case 21.	Speies unknown; many small maggots.	Lewenhoeck.	....	xiii. p.
Case 22.	Domestica; many maggots.	Dr. Reeve.	Norfolk.	...
Case 23.	Flesh flies.	Azara.	Paraguay.	Ent. Tran
Case 24.	Large blue fly, larvæ of.	Lempriere.	Jamaica.	part iii. J
Case 25.	Larvæ of flies.	Ditto.	Ditto.	Ditto, part
<i>Musca.</i> Case 26.	Nigra, several examples of.	Dr. Wahlbom.	Sweden.	Ditto,
Case 27.	Carnaria.	Ditto.	Upsal.	Ditto,
Case 28.	Domestica, 12 specimens.	Dr. Babington.	England?	...
Case 29.	Domestica, numerous larvæ.	Bracy Clarke.	Norwich.	Edin. Me
Case 30.	Larvæ of Muscidæ.	Dr. Reeve.	....	vol. vii
		Tulpius.	....	Faun. Sw
				Edin. Mee
				vol. vii
				Vide Dr. Bat
				Med. Jour
				p. 45.
				Lib. ii.

CING MYACIS.

or not.	Local Affection.	Sex.	Age.	Result.
.	Stomach.	Female.	....	....
.	Stomach.	Female.	....	....
.	Stomach.	Female.	....	....
.	Stomach.	Female.	....	....
.	Stomach.	John Page.	Unknown.	Death.
fig. C.	Loss of eyes.	Male.	Unknown.	....
figure.	Intestines.	....	....	....
.	Frontal Sinus.	Male.	Aged.	....
.	Antrum maxillare.	Female.	....	....
.	Frontal sinus.	....	....	....
.
.	Neck.	Male.	Infant.	....
.	Viæ urinæ.	Ditto.	....	....
fig. 7.	Ditto.	Ditto.	....	Cured.
xiii. p.	....	Ditto.	Adult.	Ditto.
.	Chest.	Ditto.	Young.	....
.	Gums and inside of cheeks.	Ditto.	Ditto.	Death.
.	In the ear.	Ditto.	Ditto.	Recovery.
.	Eyes and nose.	Ditto.	Ditto.	....
.	Intestinal canal.	....	....	....
.	Leg.	Female.	....	Recovery.
ol. vi.	....	....	....	....
27.	Nose.	....	....	Relieved.
.	Nose, mouth, gums.	Female.	Unknown.	Death.
.	Os cribriforme and brain.	....	....	....
.	Left side of stomach.	Ditto.	Young girl.	....
.	Stomach.	Ditto.	Girl.	Recovered.
.	Stomach.	....	....	....
p. 47, 48.	Stomach.	Male.	....	....
fig. 2.	Stomach.	....	....	....

BITE OF A VIPER IN HYDROPHOBIA.

IN the "*Giornale per servire a progressi della Patalogia e della Materia Medica di Venezia,*" is a paper by M. Sornani, giving the results of his experience in hydrophobia, and especially as to the effects of the viper's bite, which has been held up by some modern writers as a means of cure. A child of nine years was bitten by a mad dog in the forearm, and the part bitten immediately destroyed by caustic potash. Nevertheless, the usual symptoms of hydrophobia appeared in about two months. Upon this viper's bites were applied with due precaution, and without his knowledge, in two places, and at the time they did not seem to give pain. In a quarter of an hour bilious vomiting came on, which recurred several times. The disease, however, ran its usual course, and the child died within forty-eight hours. In this case the symptoms of hydrophobia, and of poisoning by the viper, were distinctly manifested at the same time, thus proving that they exert no influence over each another.

COLLEGE OF SURGEONS.

LIST OF GENTLEMEN WHO RECEIVED DIPLOMAS IN APRIL.

Thos. H. Whitaker, Calcutta.
Thos. Swales, York.
Thos. H. Barker, York.
Francis W. W. Cobbold, Colchester.
W. H. Loxley, Evesham.
H. F. Burdett, Gilmorton.
Henry Davis, Pendock.
Nath. J. Haydon, Starcross, Devon.
Thomas Taylor, London.
W. T. C. Robinson, Weymouth-st., Portland-Pl.
Charles H. Scott, Portsea.
Robert E. Craine, Isle of Man.
Richard J. Larty, Devenport.
John B. Thomson, Ramsgate.
Michael O'Reilly, Hertford.
John O'Reilly, Hertford.
James Peters, Cadiz.
Henry Reece, London.
Francis D. Pring, Mold, Flintshire.
James Miller, Newcastle-upon Tyne.
Martin Harsant, Earlschund, Suffolk.
Harrison Nason, Tallow, Cork.
John Rowley, Lancaster.
John Fitzgibbon, London.
Wm. R. Jones, Tower.
Wm. H. Sarjint, Liskeard.
Henry G. G. Harrison, Devonport.
Wm. Vesalius Pettigrew, Persia.
John H. Patterson, Portsmouth.
Mark Overton, York.
John K. Cook, Llanelly.
Francis H. Ffalliott, Clonakilty.
Edward E. Fysh, Lynn.
John Morgan, Eaton-upon-Tern, Salop.
Robert W. Munn, Worcester.
Robert L. Carley, Saxfield, Suffolk.
James Salmon, R.N.
Thomas P. Felton, Monmouthshire.
Thomas Barratt, Bath.
Henry Landon, Stockport.
Frederick Flowers, Overton.
William Griffith, Barbadoes.
T. McFaddin, Cavan.
Edward Gibson, Wexford.
Edwin Clarker, Birmingham.
Samuel Ward, Stowmarket.
John F. Abram, London.

Henry Churton, Whitechurch, Salop.
James B. Baxter, Sunderland.
Robert Jones, Llanfyllign.
John Burnett, Chapel-le-frith.
C. Rendell, Tiverton, Devon.
Frederick Symonds, Oxford.
Edwin Lankester, Woodbridge.
Robert D. Pyper, Fullamore, King's County.
T. Newman, Walton Hill, Gloucester.
James Lawton, Delph, Saddleworth.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 4, 1837.

John Holmes Perry.
Robert William Grubb.
James Silverston, of Birmingham.
Henry Allan Cleaver, of Camberwell.
George Michael Perry, of London.
Abiathar Brown Wall.
Edwin Lankester, of Woodbridge, Suffolk.
William Brattle, of Sulhamstead, Berks.
John Revett Clouting, Eye, Suffolk.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, May 2, 1837.

Abscess	2	Hooping Cough . . .	13
Age and Debility . .	59	Inflammation . . .	54
Apoplexy	14	Bowels & Stomach .	2
Asthma	42	Brain	3
Cancer	2	Lungs and Pleura .	23
Childbirth	5	Influenza	12
Consumption	95	Insanity	2
Convulsions	39	Liver, diseased . .	3
Croup	4	Measles	11
Dentition or Teething	17	Mortification . . .	4
Dropsy	21	Paralysis	8
Dropsy in the Brain .	10	Small-pox	3
Dropsy on the Chest .	1	Sore Throat and . .	
Dysentery	1	Quinsey	1
Epilepsy	1	Spasms	3
Erysipelas	2	Thrush	4
Fever	9	Tumor	1
Fever, Scarlet	1	Unknown Causes .	30
Fever, Typhus	5		
Gout	3	Casualties	5
Heart, diseased	3		

Increase of Burials, as compared with }
the preceding week } 155

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>April.</i>	THERMOMETER.	BAROMETER.
Thursday . 27	from 31 to 54	29.73 to 29.68
Friday . . 28	29 56	29.66 29.58
Saturday . 29	35 53	29.53 29.31
Sunday . . 30	43 60	29.35 29.51
<i>May.</i>		
Monday . . 1	41 64	29.61 29.73
Tuesday . . 2	37 64	29.85 29.86
Wednesday 3	39 64	29.77 29.65

Winds S.W. and N.E.
Except the mornings of the 28th, 29th, and 30th ult., and 3d instant, generally clear; frequent showers; a little hail fell in the afternoon of the 30th.
Rain fallen, .275 of an inch.

NOTICES.

We have not Mr. C.'s paper about the Grippe—it may have been mislaid among the papers of the late Editor.
The conclusion of Mr. Little's paper is unavoidably postponed owing to a mistake in the "copy."

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THE LONDON MEDICAL GAZETTE,

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OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 13, 1837.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE XII.

On constitutional inflammation in general: on fugitive swellings and pains—Curious case of erratic gout causing transient swellings—Gout affecting the lobe of the ear—Fatty hypertrophy of the ears—Gouty grinding of the teeth—Gouty neuralgia of the skin—Remarks connected with Dr. Kingston's recent researches on consumption.

I TAKE the present occasion of making a few remarks on certain varieties of gout, of which I have recently seen several singular examples, premising some observations on constitutional inflammation in general.

There is no proposition in pathology better established than that there exist certain constitutional affections capable of generating and modifying local inflammatory action; and that local inflammations, depending on a constitutional cause, are subject to very different laws from those which regulate the phenomena of common inflammation.

Another fact of equal importance in many points of view is, that local inflammations depending on a constitutional cause differ remarkably from each other, and in general present specific characters easily recognized. Thus, local affections arising from scrofula are not likely to be confounded with those depending on gout or rheumatism, and the inflammations produced by syphilis and other animal poisons exhibit peculiarities by which their respec-

tive origin and nature may be satisfactorily ascertained. It must, however, be admitted, that although advanced considerably in our knowledge of the phenomena of local disease depending on a constitutional cause, the subject still displays a wide field for investigation, and many points of much importance in pathology and practice, require still further investigation. Professor Cayol, in his *Leçons Orales*, has made some observations on this subject well worthy of attention. Speaking of the dependence of local disease on constitutional causes, he says, "Il faut nécessairement conclure que les dégénération organiques ne sont pas cause, mais effet. Et dès lors, nous sommes fondés à vous dire, qu'au lieu d'user votre vie à chercher toujours quelles sont les dégénération organiques et les altérations de texture qui produisent les symptômes des maladies, il serait bien temps de s'inquiéter un peu de savoir ce qui produit ces dégénération elles-mêmes, en étudiant sérieusement les caractères, la marche, et la tendance des actes vitaux qui les préparent, et qui les produisent réellement."

There is one fact connected with local inflammation depending on a constitutional cause not sufficiently noticed, namely, that certain affections of this kind are sometimes remarkably fugitive and transient. We are accustomed to regard the process of inflammation, whether common or specific, as one which generally lasts for some days; but it occasionally happens, that a peculiar diathesis will give rise to local affections having the characters of inflammation, and which run their course and terminate in the space of a few hours. This observation, which should be borne in mind in the investigation of diseases connected with the general habit, will serve to explain some of the anomalies which strike us occasionally in the study of constitutional maladies. The first instance of this kind that came under my notice occurred in the case of a florid

healthy-looking boy, aged six years, in whom, on attentive examination, I was led to suspect the existence of a scrofulous taint. At the time I saw him he was subject to a sudden and rapid formation of bumps, or tumors, on various parts of his body; sometimes on the arms, sometimes on the legs, and occasionally on the trunk. These circumscribed tumefactions were accompanied by a feeling of heat and tenderness, and apparently depended on local congestion, or effusion in the subcutaneous cellular tissue. But what was most remarkable in them was, they arose, ran through their course, and terminated in the space of four or five hours; they were suddenly developed, and disappeared with equal rapidity. In the course of a month, other more permanent inflammations were set up; scrofulous ophthalmia, glandular swellings, and ulcers supervened; the joints became affected, and the boy died in about a year and a half, with all the characteristic marks of the scrofulous diathesis. I have detailed this case before, and shall not dwell on it any farther at present; but it is well worthy of notice, in consequence of the very brief duration of the first local affections.

Gout is another disease which occasionally exhibits examples of its peculiar inflammation attacking various parts and tissues of the body, and that for an extremely short period of time. It is well known that persons of a gouty habit are subject to sudden pains or twitches, which last only for a few minutes, or even seconds. I shall not stop here to consider what may be the nature of these fugitive pains; I may observe, that certain facts seem to prove, that these pains are the result of a momentary congestion. Thus in various neuralgic affections, and in inflammatory diseases in which the nerves are considerably engaged, pain is suddenly produced by coughing. If a man labours under neuralgia of the frontal or facial nerves, or if he be affected with sciatica, how are his sufferings increased when he has unfortunately at the same time a cough! Every time he coughs, the affected nerve gives notice that it feels the congestion by a sudden pain. Now the only way in which coughing can increase a local pain, is by favouring local congestion; that it is capable of doing this is proved by the redness of the face it occasions, as also by the hæmorrhage from the nose, or from recent wounds, which is so often produced by a fit of coughing.

As there can be no doubt, then, that a momentary congestion may produce a momentary pain, we may infer that in many instances gouty twitches are owing to some cause which determines an instantaneous congestion of the affected part.

Sometimes the congestion is more lasting, and then the pain is proportionally intense and persistent. Thus Mr. Daly, of Henry-street, knows a gentleman, the lobe of whose ear is sometimes attacked suddenly by gouty congestion, accompanied by agonizing pain, but which never lasts more than a few hours.

This fact brings to my mind a curious case which some years ago came under the notice of the Surgeon-General, Mr. Ferrall, and myself. A young gentleman of fortune perceived that the pendant lobes or tips of his ears were becoming elongated; they increased gradually in such a manner that he considered himself disfigured by their unseemly length, and therefore attempted their concealment by allowing his hair to grow in long curls, so as to hide the ears. This gentleman soon afterwards became dropsical and died; and, on dissection, Mr. Ferrall found his liver in a state of fatty degeneration. On slitting up the elongated portion of the ears, he discovered that their hypertrophy had been occasioned by the deposition of a large quantity of fat. The subcutaneous adipose tissue, and the omentum, were likewise much loaded with fat. This observation is of some importance, as teaching us that fatty degeneration may be the consequence of a general tendency in the system to manufacture and deposit fat in the textures of the different organs. In this point of view the change of structure in the liver must be regarded as an effect, and not as a cause, of the general derangement of the system, and the fatal termination of the case.

One of the most remarkable instances of fugitive inflammation affecting various parts of the body, which has come under my notice, occurred in the person of a gentleman lately under my care. I shall not go through the whole history of his disease, of which he has favoured me with a very minute account, but shall merely state, that he is of a gouty habit, has had an attack of gout in the stomach, and is at present subject to a gouty affection of a very extraordinary character. After labouring for some time under languor and weakness, accompanied by spasms, pain, and sense of weight in the stomach, the pain of the stomach ceases, and his face begins to swell at various points, generally commencing on the forehead, and involving the cheek and eye, so as to close up the latter. He first feels as if a small current of air was directed on the face; then, as it were, the flip of a finger, or the bite of a gnat; and, on looking in the glass, he suddenly perceives a tumor rising on the forehead, which, in the space of half an hour, becomes as large as a pigeon's egg, and, as he expresses it, moves

down until it closes the eye. Sometimes it attacks his lips, and other parts of his face, but never affects his nose. These tumors have also appeared on various parts of his body; and he observes in his letter to me, that he is sometimes led to think that they attack his stomach also. Before and during an attack of the face, which generally occurs on the left side, the discharge from the nostril of the affected side ceases. But what is chiefly remarkable in this case is, the singular character of the local affection. The tumors arise, run through their course, and disappear, in the space of a few hours; and on the following day there is no trace of their existence. Sometimes the lips, inside of the mouth, palate, and uvula, are attacked, giving rise to very considerable inconvenience. Were such tumors to occur in the neighbourhood of the glottis, I need not say that they would be pregnant with danger of no ordinary character. I may observe, that this gentleman has derived great benefit from the use of hydriodate of potash, and from decoction of sarsaparilla with nitric acid, and that his health is at present much improved. His case presents a very curious example of transient local inflammation depending on the gouty diathesis.

Having touched on the subject of anomalous local affections as connected with the gouty habit, I may be allowed to refer to a subject on which I have already published some observations.

In a paper inserted in the Dublin Medical Journal for March, 1836, I noticed the morbid habit which some individuals have of grinding the teeth, and detailed some facts in illustration of this affection. I have now seen several cases of this kind, and I have observed that they all occurred in persons of the gouty diathesis. The grinding of the teeth continues for years as a daily habit, and produces very remarkable changes in the conformation of these organs, affecting sometimes one side of the jaw, sometimes both; so that in confirmed cases we frequently find the teeth ground down to the level of the gums. There is not at present the slightest doubt on my mind, that the irritable state of the dental nerves, which gives rise to this irresistible tendency to grind the teeth, depends chiefly on the existence of gout in the constitution. I may observe, however, that in many persons in whom the teeth are found worn nearly to the gums, there appears to be another cause in operation. Thus, in cases of indigestion, it is not unusual to find the enamel of the teeth partially or considerably worn away, long before the natural time; and in such instances we used formerly to attribute the injury to the genera-

tion of acids in the stomach. The researches of Donné and Thomson, however, have shewn that the saliva is subject to very remarkable alterations in certain forms of dyspepsia, and that whenever the disease is accompanied by much irritation of the gastric mucous membrane, and derangement of its secreting functions, the saliva becomes extremely acid, and, of course, capable of corroding the enamel of the teeth. The following case has recently come under the notice of Mr. Pakenham, of Henry-street:—

A gentleman, aged 45, slightly made, but muscular, and born of healthy parents, was attacked with shivering and loss of power of the right side after a severe wetting. He recovered under appropriate treatment; but, about a year afterwards, began to observe in himself a tendency to grind his teeth, which gradually increased to such an extent as to prove a nuisance to himself and every one about him. Under these circumstances he consulted an eminent surgeon in Dublin, who applied the actual cautery behind one of his ears, slightly affected his system with mercury, and extracted one of his teeth,—all with considerable relief, which lasted for about six months. He then became as bad as ever, and applied to another surgeon, who tried iron in every form without success; and subsequently to a third practitioner, who used in addition leeching, blistering, pustulation with tartar emetic, and various other remedies, but without any favourable result. All this time his medical attendants, so far from suspecting the presence of gout, ridiculed the idea of its existence.

About three months ago, this gentleman came to Dublin, went to dine at the house of a friend, and with some others, supped late at night, and drank some whiskey punch. Next day he had vomiting, purging, and epigastric tenderness, and on the following day the ball of his great toe became swollen, hot, and exquisitely painful, leaving no doubt as to the nature of the affection. In this gentleman's case the grinding of the teeth is not constant, but it is always greatest when the stomach is most deranged. The teeth in the under jaw are all sound; three or four of the molars of the upper jaw have been extracted. The four upper incisors are ground nearly half way through to the gum on the inside, while the lower are very little worn. By pressing the tongue against the upper incisors, or by touching a certain point of one particular tooth, he can at any time arrest the tendency to grind, and can suspend it as long as pressure is continued in the manner just described.

With the view of further illustrating the varieties of gout, I shall detail the follow-

ing remarkable case, which came recently under my notice:—The patient, a gentleman of large fortune, is of a strong and athletic frame, about five and thirty years of age, and a member of a family subject to gout. He was much addicted to field sports, and accustomed, in cold weather, to frequent immersion of his feet in cold water, in pursuit of his favourite amusement, snipe-shooting. The consequence of this exposure has been, that he has been labouring for some time under a neuralgic affection of the lower extremities, which commenced in his feet and ankles, and extended gradually upwards, involving the whole of the lower extremities as far as the hips, and giving rise to sufferings of a very intense character. In a lecture formerly published, on Creeping Paralysis, I noticed, that repeated exposure of the feet to cold seems often to lay the foundation of this disease. Now in this case there is some danger that the gentleman, were proper measures neglected, may ultimately become paraplegic, or even generally paralytic. I do not bring this case forward as an example of gouty pains gradually advancing from the extremities towards the spine; for although I strongly incline to the opinion that his complaint is of a gouty nature, and although most of his medical advisers have suspected a gouty complication, still this is by no means a decided point.* Be this as it may, his case presents a very interesting specimen of creeping neuralgia, chiefly affecting the cutaneous nerves (nerves exclusively destined to perform the function of sensation), but gradually implicating the nerves of motion in the disease. I shall now proceed to lay before you the details of this case, which have been noted with singular accuracy and ability by the gentleman himself. In a letter to me he observes,

“As you wish for a description, in writing, of the manner in which I am affected, I subjoin every particular I can think of which seems likely to throw any light on the subject.

“It is now nearly five years since I began to suffer severely from pains in my limbs, which for the last two or three years I have looked upon as neuralgic. About a year previous to that time I had occasional pains in one foot, which increased so as to become violent on one occasion, after a long ride. I had, however, been always in the habit of riding, and considered that exercise to agree particularly well with my health. Indeed, I had found hunting

of great use to me, when suffering from liver complaint, having had inflammation of the liver twice in my life. It is now fourteen years since I had the last attack of liver disease, and I very seldom have pain in my side; whenever it occurs, it is generally removed by the use of a little blue pill.

“When first the pains in my limbs commenced they were confined to my feet; then, for a long time, extended no higher than my knees; latterly they have ascended as far as my hips, where, and in the groin, I sometimes experience great suffering. I have had occasional twitches in my arms, and very slightly across the chest. The pain always comes on with sudden violence, which renders it very hard to bear, especially when it attacks me during sleep. I am frequently aware of its approach, from a general feeling of discomfort and depression; from which, in the beginning of my complaint, I used to suffer very much for two or three days before an attack. These paroxysms have, for four years, shown a great tendency to periodicity, recurring generally once every week, commencing on Saturday or Sunday, sometimes on Friday, and lasting till Monday. They have twice or thrice lasted for a week together, but sometimes continue only a few hours. In the commencement I have occasionally been free from them for two or three months together; and within the last year was free from them, at two different periods, for a whole month. When in pain, I have never experienced the slightest alleviation from any thing, except at times from a full meal with wine, particularly champagne. I have often been unable to remain in bed, from the violence of the pain, which is increased by the weight of the bedclothes, or the slightest touch of any thing; even the air blowing on the part brings on violent torture: at the same time I can bear strong pressure, or even a blow on the parts, without making me worse. The pain appears to be quite on the surface, except that sometimes it seems deeply seated, particularly in the ankle-joint and shin-bone. It is unaccompanied by any redness or swelling, and flies instantaneously from one limb to the other, rarely occurring in both at the same time. It leaves behind great weakness of the affected limb, so as to oblige me to walk with a stick for some time, and occasionally with two.

“One very unpleasant consequence of the pains in my limbs, is, that I now find I cannot use exercise on horseback, if I leave it off for any time. I have found this and walking at all times conducive to my general health. Indeed I can still walk a good deal, even during an attack,

* I have since seen his usual attendant, Dr. Little, of Sligo, one of the most experienced and skilful physicians in Ireland, and am much gratified by finding that Dr. Little's opinion exactly agrees with mine, as he considers the case to be gouty neuralgia.

although it is very painful, particularly when setting out. I find it necessary almost constantly to have recourse to aperient medicine—generally rhubarb pill. At times I have had giddiness of my head, and noise in my ears, to a very distressing degree; and have had recourse to powerful purgatives, and even bleeding, to remove the symptoms, without effect. A medicine, principally nervous, in which gentian was an ingredient, relieved me at one time, after finding the above remedies ineffectual. I have already tried iron, mercury, nitro-muriatic acid, stramonium, arsenic, and the external use of croton oil, without benefit, except that I felt rather better for a month after two of these remedies, but no longer, and the pain returned with great violence at the end of that period. The counter-irritation appeared to increase my sufferings. I have also tried anodyne embrocations without effect. Anxiety of mind, or annoyance, often brings on an attack. I even remarked, the other day, that it came on instantaneously on breaking a tooth whilst eating. On the other hand, excitement, whether from a sudden necessity for exertion, as on occasion of an accident, or any thing that gives a pleasing interest and occupation to my mind, such as travelling through an interesting country, seems to keep off, and sometimes even remove an attack.”

In general, a regular attack of gout in the extremities is preceded by a longer or shorter period of constitutional disturbance and dyspepsia. We must not, however, in making the diagnosis between gout and rheumatism, consider this distinction as not liable to exceptions, for I have seen more than one case of hereditary gout, in which the arthritic attacks came on suddenly, without the slightest precursory derangement of the health, or the operation of any assignable cause. I have as yet seen no instance of a similar nature in acquired gout.

Another exception to the general rule is also worthy of notice. In general, a fit of the gout is preceded and accompanied by a scanty secretion of turbid high-coloured urine. As the fit goes off, the urine increases in quantity, becomes clearer and paler, and loses its tendency to deposit the lithates and purpurates. Now, in two cases of hereditary gout, I have seen this order reversed, and the approach of the fit announced by a great increase in the secretion of urine, which was quite watery and limpid, and continued so until the violence of the articular inflammation began to decline. The urine then became scanty, and deposited the lateritious and pink sediment in great abundance.

That the gouty diathesis may excite its specific inflammation in most of the tissues

of our organs, is a fact generally admitted; but I regret to state that our knowledge concerning the effects which it produces in these various tissues is far from being accurate or extensive. Beere, M^rKenzie, Middlemore, and others, have done much towards elucidating its effects on the eye and its appendages; and we are tolerably well acquainted with its progress in serous, synovial, and fibrous membranes. What changes it produces in the secretions of mucous membranes, is a question which has not been studied with an attention commensurate to its importance. Thus, though all acknowledge the existence of gouty cough or bronchitis, the diagnosis and history of this affection are still very incomplete. This has been acknowledged by Dr. Stokes, who has published by far the best account of bronchitis which has yet appeared*. The effects of gout on the lining membrane of the urethra and bladder are better known and studied, but I think that much still remains to be done in this as in every other class of inflammatory diseases where the inflammation depends upon a constitutional taint.

In my published lectures I have long since expressed an opinion at variance with that generally taught concerning the bronchitis and pneumonia which accompany pulmonary consumption, and I have brought forward strong reasons for believing that too much importance has been attached, and attention too exclusively devoted, to the tubercles in this disease. Thus authors talk of tubercular pneumonia, where it would be more correct to designate the affection as scrofulous pneumonia accompanied by tubercles; they speak of tubercular cavities and abscesses in the lung, in cases where scrofulous cavities and abscesses exist. In fact, I repeat it emphatically, that the essential characteristics of phthisis pulmonalis are derived from scrofula. This it is which converts what would be common into consumptive pneumonia or bronchitis;—this it is which so often renders both incurable.

Tubercles and tubercular infiltration are mere results of nutrition morbidly modified by scrofula; they are effects, not causes; they often exist without scrofulous inflammation, and the latter may exist without them. It gives me much pleasure to find that these opinions, which I published two years ago, have received ample confirmation from the observations of Dr. Kingston, in a paper read before the

* See a treatise “On the Diagnosis and Treatment of Diseases of the Chest,” by Wm. Stokes, M.D. This work places its author among the first medical observers of the day, and will acquire for him an European fame.

Royal Medical and Chirurgical Society of London in April last, and shortly noticed in the *MEDICAL GAZETTE*, April 29th, 1837.

At our next meeting I propose to follow up the important subject of Gout.

TWO LECTURES
ON
LITHOTRITY AND THE BI-LATERAL
OPERATION,

DELIVERED IN

London, Birmingham, Bath, and Bristol,

BY EDWIN LEE, Esq., M.R.C.S., &c.

LECTURE I.

It is my object, in giving these two demonstrations, to make more known and appreciated in England a means lately introduced into practice, by which persons afflicted with stone in the bladder, may, in many cases, be relieved, without the necessity of resorting to one of the most formidable operations in surgery; and as, unfortunately, the performance of lithotomy must still be frequently required, to describe a mode of operating which, though adopted by many continental surgeons, and almost exclusively preferred by the late Baron Dupuytren during the latter years of his life, has not, I believe, been practised as yet in this country, notwithstanding the advantages it appears to offer over other methods in particular cases.

Attempts to file or break down stones in the bladder have been repeatedly made from a very early period, but they were not attended with success till within the last few years, when, by the ingenuity of some French surgeons, especially MM. Leroy d'Etiolles and Civiale, who improved upon the imperfect instruments previously known, an instrument was invented, by means of which calculi in the bladder could be reduced to powder, or to fragments sufficiently small to pass away with the urine by the urethra. The successful application of this instrument caused the attention of the profession in France to be strongly directed to the subject; and the instrumental improvements that have been subsequently made have so far simplified the operation of lithotritry as to render it comparatively easy of performance by the generality of surgeons in the ordinary course of their practice. In England, however, lithotritry has scarcely as yet taken its place among the established operations; but, like lithotomy at an earlier period, its performance has been almost entirely restricted to special opera-

tors, on which account it is available only to a small number of individuals. This circumstance may be ascribed to the ideas which are generally entertained of the difficulties of the operation, of the long practice necessary to acquire a facility in performing it,—of mechanical beds, and other extraordinary apparatus being required. I shall endeavour to show that these opinions are in great measure erroneous, by demonstrating the facility with which a stone may be seized and crushed in the bladder, which may frequently be done by persons on their first attempt. The difficulty does not so much consist in finding and breaking the stone, as in getting rid of the smaller fragments, which requires a more practised hand and familiar acquaintance with the instruments. A common bed or operating table may be made to answer the purpose quite as well as beds of a peculiar construction, which are now dispensed with by most continental operators, being considered unnecessary, and sometimes attended with serious inconveniences, of which I shall speak presently.

It may be said, that although a stone may be readily seized in the dead bladder, it would be much more difficult in the living body; but as far as the mere manual operation is concerned, the reverse is more frequently the case, as the moderate contraction of the bladder during life often causes the stone to fall between the branches of the instrument,—whereas in trials upon the dead body the bladder must necessarily be opened to admit a stone, cannot always be kept properly distended with fluid, and in consequence of its flaccid state the mucous membrane is not unfrequently caught with the stone, or on closing the instrument. In some cases, however, considerable difficulty is experienced in the living body, either from the stone being lodged in a fold of the bladder or behind the prostate gland, or from the bladder contracting so forcibly as to expel the fluid injected; but in most instances the stone is found on the first introduction of the instrument.

In the discussions which took place on the subject before the Académie de Médecine, a good deal of warmth was exhibited by the advocates and opponents of lithotritry: the former brought forward accounts of the numerous patients relieved, and exaggerated the difficulties and dangers of lithotomy; while the latter adduced cases in which the most disastrous consequences had ensued upon the performance of lithotritry, of the deaths that had occurred in consequence of it, and of patients who had been obliged, on its failure, to undergo lithotomy. A good

deal of interest in the matter was excited in the non-medical part of the community, who, from the successful cases having been noised abroad by some of the more zealous advocates of lithotrity, while the unsuccessful ones were frequently not alluded to, was induced to form an erroneous estimate of the operation, believing it to be attended with but little pain or inconvenience, and not likely to be followed by unpleasant consequences. Under very favourable circumstances this is sometimes the case; but in the great majority of instances the performance of lithotrity is attended with some, often with considerable pain, and frequently gives rise to serious consequences, which have sometimes a fatal termination.

When I attended lectures on lithotrity, about two years ago, the lecturer set out with the principle of its being applicable to all cases of stone which could be made the subject of operation. This is the fault of most professed lithotritists. They take it for granted that the operation is of universal application; and by performing it in cases to which it is but ill suited, bring it into discredit among the less prejudiced part of the profession. The same thing is constantly seen to happen with respect to many other new remedies, which, though perhaps good in themselves, from being overpraised at first, and not being found afterwards to produce all the beneficial effects announced by their proposers, frequently fall into unmerited neglect. It is now, however, generally admitted by unprejudiced persons conversant with the subject, that though lithotrity will supersede lithotomy in many cases, yet that in others lithotomy is more especially indicated.

It is not my intention to enter into the history of lithotrity, and the description of the various instruments which have been brought forward, most of which are now discarded from practice, as this would occupy several lectures, and would be of little practical utility. I shall therefore confine myself to an account of some of the instruments now in use, state their respective advantages and disadvantages, and inquire briefly into some of the cases to which lithotrity or lithotomy is most applicable.

Lithotritic instruments may be ranked under four heads: 1st, those which act by perforating the stone, and gradually reducing it to a mere shell, which is easily broken; 2dly, those which act entirely by pressure; 3dly, those which act entirely by percussion; and 4thly, those which combine pressure with percussion.

Instruments which act by perforation must necessarily be straight. It was for a long time thought by many persons that

the introduction of straight instruments into the bladder, through the male urethra, was in most cases impracticable, or nearly so. This opinion is now proved to be erroneous. Straight sounds may be passed into the bladder with nearly the same facility as curved ones, except where the curvature of the urethra is greater than usual, or where there exists enlargement of the prostate gland. This is as one would be led to expect on considering the yielding nature of a canal formed entirely of soft parts. But the use of straight instruments is attended with some inconveniences, to which I shall presently advert; and in order to obviate these, a curved perforating instrument was invented by M. Pravaz, but was, I believe, never used on the living body.

The three-branched instrument of M. Civiale was the first one used in France, and is the only one of the kind now employed. It consists of an outer canula, made of silver, which serves as a sheath to a longer canula, made of steel, and split at one end into three branches, which open by their own elasticity, and are closed by pressing the outer canula upon them. Their extremities are turned inwards, forming blunt hooks, which, when the branches are closed, overlap one another, and thus occupy very little more space than the end of a full-sized bougie. At the opposite extremity, or handle, is a graduated scale, to show the diameter of the stone or fragment within the branches, and a gilt line, which serves to indicate the direction of the branches. The third portion of the instrument is the perforator—a steel rod, fitting so as to slide easily within the inner canula, and having an expanded head, which terminates by several sharp projections, intended to act upon the stone; at the other end is a brass ring, round which the string of a bow may be fixed when it is desired to perforate the stone rapidly; but very often the operator rotates the perforator with his right hand, while holding the instrument firmly with his left.

It was formerly thought requisite, before operating, to dilate the urethra by the introduction of bougies gradually increasing in size; but at present the diameter of lithotritic instruments seldom exceeds that of a large bougie, and the preliminary dilatation of the urethra is consequently dispensed with, except in some particular cases.

The patient should be placed in a favourable position for allowing the stone to fall towards the fundus of the bladder, which may be effected by placing firm pillows under the pelvis, so as to raise it higher than the abdomen. The legs and thighs should be moderately flexed, the

head and shoulders slightly raised, and tepid water injected into the bladder through a common catheter, in the quantity that may be judged sufficient, or until the patient feels a desire to make water. The instrument, well oiled, is then to be passed along the urethra, till its end touches the pubis, when, by slightly raising the hand, and pressing gently forwards, it will slip beneath the bone and enter the bladder. The object in making the end of the instrument strike against the pubis is, that this bone may serve as a guide, and prevent its deviating from the central line. The operator, standing between the patient's thighs, or on his right side, carries the point of the instrument in various directions till it touches the stone, which in most cases is felt without difficulty. The stone being felt, the point of the instrument should be kept upon it, and the outer canula drawn back by the operator's left hand, by which the branches will be expanded immediately over the stone, or anterior to it. Care should be taken that the gilt line at the handle be directed upwards, as being on the same line with the longest branch, it indicates that the two others are parallel with the floor of the bladder. The perforator should then be drawn back, and by depressing the branches to the lowest part of the bladder, or by carrying them a little forward, the stone will probably be taken up. If, instead of drawing back the outer canula, the operator should open the branches by pressing forward the inner one, they would be expanded beyond the stone, and would very likely strike the posterior part of the bladder. Attention must therefore be paid to holding the inner canula firmly with the right hand, while the outer one is drawn back with the left. When the stone is within the branches, the outer canula being pushed forward upon them causes them to embrace it firmly; but unless the perforator be also gradually advanced at the same time, its head would prevent the canula from being pressed forward. Care must be taken to do this by degrees; for if the perforator be too much advanced at once, before the stone is fixed, it might push it out of the grasp of the branches. These details, which, from the description, appear difficult to be followed, become extremely easy after a little practice. When the stone is secured, the outer canula must be fixed to the inner one by a screw near the handle, and the perforator being in contact with the stone, should be rotated till a perforation is made in it, and resistance is no longer felt. The position of the stone must then be altered, by somewhat relaxing the hold upon it and tapping the handle of the instrument; or,

if this do not succeed, by allowing it to escape and taking it up afresh, in order to make a second perforation. The number of perforations made at one sitting must depend upon the condition of the patient, the length of time occupied, and other circumstances.

Should the attempt to seize the stone fail, which may depend upon its being pushed aside on the expansion of the branches, or upon its lying too close to the neck of the bladder, the instrument should be closed, and the stone felt for as at first: by raising the pelvis more, the difficulty is sometimes removed. It not unfrequently happens that the stone is taken up improperly—as by the extremities of the branches, or between two of them only. When this is the case, it will soon be pushed out on the perforator beginning to act, or an imperfect lateral perforation will be made instead of a central one.

In order to withdraw the instrument, the screw fixing the two canulæ together must first be loosened; the branches must be expanded, to allow the stone to fall out, and then closed by pushing forward the outer canula upon them; care being taken that this be not impeded by the head of the perforator.

After the first two or three sittings the urine is not unfrequently tinged with blood, which is of no great consequence; the powder caused by the perforations passes away readily, and the operation may be repeated after one, two, three, or more days, according to circumstances; the patient being kept quiet in the interval, upon a restricted diet, and enjoined to drink plentifully of mucilaginous drinks.

When, after successive perforations, a mere shell remains, it may be broken by forcibly closing the branches upon it: some stones, and fragments too small for perforation, may often be broken in like manner.

This instrument is not so frequently used at the present day. Even its inventor, who, during several years, used no other, now often uses instruments for breaking down, or crushing. In some cases—as of stone in women, in whom the urethra is short and straight, the perforating method may be more specially applicable; but for men, the straight form of the instrument is a great objection, as, where the urethra is much curved, or the prostate enlarged, its introduction would be attended with a good deal of difficulty; and when introduced, by forcibly straightening the urethra, it must cause a considerable strain upon the neck of the bladder and membranous portion of the urethra. This last inconvenience is not, however, limited to this instrument, as the instru-

ments for percussion, and percussion combined with pressure, have only a short curve at their extremity, which is entirely within the bladder, while all that part within the neck and the urethra is straight; hence the strain upon these parts is perhaps as great by the one method as by the others, and not unfrequently induces fever, alarming nervous symptoms, and high local irritation; in consequence of which the bladder sometimes becomes so contracted during the operation, as to expel the fluid and prevent the instrument from being opened.

Civiale's instrument has the disadvantage of not being applicable to large stones nor to hard ones: neither can a stone be so easily seized with it as with others, being frequently pushed on one side, or below, by the expansion of the branches. The operation is generally longer by perforation than by the other methods, and a greater number of sittings are required before the stone is reduced to fragments sufficiently small to pass out. The branches are slighter, and are consequently more liable to break or become bent, so as to prevent their closing; and their hooked extremities are more liable to catch the bladder than those of other instruments. The closing of the branches is sometimes prevented by fragments getting between them near the canula, or between the head of the perforator and the canula. Such, then, are the chief disadvantages of this method.

Among the advantages claimed for it, are, that it gives less pain, and the bladder is less likely to be bruised than when percussion is employed; that the stone is left, after the first sittings, of its rounded or oval shape, instead of being at once broken into several angular fragments, which are frequently a source of great irritation; and that a great part of its substance is got rid of by the perforations before it is broken.

Some of the inconveniences, however, which were apprehended from the breaking or crushing of stones, are not of such frequent occurrence in practice as might be supposed. No great degree of force is required to break down many calculi, and the number of fragments is not very often found to add to the irritation of the bladder: in fact, the mucous discharge indicative of a state of chronic irritation of this viscus is not unfrequently diminished in quantity after two or three sittings of lithotrity; and the degree of pain during the operation very often depends more upon the susceptibility of the individual than upon the method employed. It would appear also, notwithstanding the numerous instances of success which were brought

forward by its supporters, that the proportion of unsuccessful cases, after the indiscriminate employment of the perforating method, is greater than after lithotrity. Thus the report of M Double, laid before the Academie de Médecine, states, that out of forty-three patients operated upon by a surgeon who employed this method exclusively, ten died, six were not relieved, and only twenty-six were cured: the unsuccessful cases being upwards of one-third of the whole, and the deaths in the proportion of 1 to $4\frac{1}{4}$.

A variety of instruments have been proposed for breaking down stones in the bladder. Some years ago, Mr. Hodgson, of Birmingham, invented an instrument for this purpose. Mr. Weiss also constructed a somewhat similar instrument, which was employed by Sir B. Brodie, and from which Baron Heurteloup is said to have taken the idea of his percussor. Another, which has been more used of late years, was invented by M. Jacobson, a Danish physician. This is extremely simple in its construction, has the advantage of being of a curved form, somewhat like a common sound, and is composed of two branches fitting within a sheath, and united at the extremity. The branch corresponding to the concavity of a sound is fixed, while the other, or convex branch, is made to slide within the sheath. Its curved part consists of three or four portions joined together by hinges, which, when the instrument is closed, present no remarkable irregularity which would be likely to injure the parts. By pushing forward this branch, its jointed portions are opened out so as to form a kind of loop, large enough to hold a stone of moderate size. When the stone is within the loop, it is crushed by the operator applying pressure by means of a screw, which has its *point d'appui* against the sheath and fixed branch, to the convexity of which the joints of the moveable branch are gradually approximated, in proportion as the screw is tightened.

This instrument may be introduced into the bladder as easily as a common sound of the same size, and would not occasion so much strain upon the prostate and perineum as others. When opened within the bladder, the inferior part of the loop touches its lower part, the stone is easily seized, and may be broken, even when of considerable hardness. Where, however, great force is employed, one of the joints might give way; but such an accident would not be attended with the same danger as the breaking of any other kind of instrument in the bladder, as the broken portion would still be attached by its remaining hinge, and, becoming reversed, might be withdrawn with the rest of the

instrument. As there are neither hooks nor projecting branches, the bladder is less likely to be caught than with other instruments; but one or two inconveniences may occur during its employment to counterbalance these advantages. As the joints occupy the whole of the convex portion, the posterior one extends to the neck of the bladder, and, when opened, may occasion pressure or stretching of this part; though, by a recent improvement, this inconvenience has been in great measure remedied: the portions being shorter, and the joints being carried nearer to the extremity, leave the part at the neck of the bladder of the same diameter as the rest of the instrument within the urethra. The principal inconvenience occasionally attending the use of this instrument, which has caused it to be laid aside by some operators, is, that after the stone is crushed, some of its fragments, forming a powder, or a sort of mortar, cannot be dislodged from between the branches, which consequently can only be imperfectly closed, and are withdrawn with difficulty, forcibly stretching or lacerating the parts. The liability to this accident must depend, in some measure, upon the nature of the stone. It has been proposed to pass a wire through a groove between the branches, in order to clear them of the fragments; but I am not aware that this has been done during an operation. If the occurrence of this accident could be prevented, the chief objections to Jacobson's instrument would be removed, and there is little doubt but that it would be more generally used, though it is not well calculated for taking up small fragments.

I now come to speak of the method of percussion. The originator of this method is Baron Heurteloup, whose instrument for breaking the stone resembles in outline those which most operators at present employ. The original percussor is of large size, and required the previous dilatation of the urethra. It has rather a clumsy appearance, and when closed is not unlike a very large metallic sound; but its curve is more short and abrupt. It consists of two branches, the one sliding within the other somewhat in the manner of a shoemaker's measure for taking the length of the foot; but the separation of the extremities of the branches is limited to an extent of about two and a half or three inches. The teeth, to facilitate the holding and breaking of the stone, are very large, and are on the same line on each branch, from which it results that the intervening part between them is much weaker than the rest and would not

be unlikely to break when the stone is very hard.

In the improved instruments, which combine pressure with percussion, the teeth are small, and so arranged that the extremities of the branches are of the same degree of strength throughout, and the force is consequently transmitted more to the commencement of the curve and straight part of the instrument, instead of being almost entirely concentrated upon the extremities. The Baron, however, now frequently uses a percussor without teeth, by which fragments can be taken up with less likelihood of catching the mucous membrane of the bladder.

A part of the apparatus considered indispensable by Heurteloup is the rectangular bed, forming an inclined plane, by which the pelvis may be raised, and the fundus of the bladder depressed, in order that the stone may fall towards this part. Another purpose of the bed is to hold the percussor firmly, after the stone is seized, to prevent the bladder being injured by the shock of the blows. This is effected by an iron appendage fixed to the end of the bed, the branches of which being approximated by a screw, hold the handle of the percussor as in a vice. The rectangular bed is, however, not frequently used by most operators, as its disadvantages have been found to more than counterbalance its supposed advantages. It renders the operation more complicated; and, except in cities, or in large public institutions, could not readily be procured. On this account alone, were it generally considered to be requisite, it must have the effect of restricting the method of percussion to particular localities. It is also of formidable appearance, which would in many cases create alarm in the patient's mind, and depress his spirits; and as, when the percussor is fixed to the bed, it constitutes part of the immoveable apparatus, the patient is, as it were, hooked on by his bladder, which might be seriously injured by the slightest movement,—an accident which has happened in some instances. Again, it not unfrequently happens that the fluid is expelled during the operation by the contraction of the bladder, by which its parietes are brought into contact with the instrument, which, being fixed to the bed, would not of course yield, and might seriously injure the bladder, especially should the percussion be persisted in under similar circumstances.

Most operators, therefore, prefer a common bed, sofa, or table, raising the pelvis by firm pillows placed beneath it; and having seized the stone, either hold the instrument firmly with their left hand, or,

if hard blows be required, cause it to be held by an assistant, with a handle constructed for the purpose, which would suffice to prevent the shocks being communicated to the bladder, without offering too great resistance, on the contraction of this viscus, or on the movements of the patient. A few sharp blows are then to be struck on the extremity of the instrument, with the hammer held in the right hand, until the stone is felt to give way, and the instrument to close. When the stone is broken, the handle is to be removed; or if the mechanical bed be used, the instrument is to be unfixed from its iron hold, and the fragments taken up, to be again broken in a similar manner.

Such is an outline of the method by percussion. The combination, however, of pressure with percussion, in the same instrument, has great advantages. These instruments are not unlike Heurteloup's percussor; but though sufficiently strong to prevent the danger of their breaking, they are yet not larger than ordinary-sized bougies, and may be passed into the bladder without preparatory dilatation of the urethra. They are likewise composed of two branches, the concave branch sliding freely within the convex or inferior one, from which it may be completely withdrawn. The instrument thus serves for percussion, while, by the addition of a screw at the handle (acting by means of a fly in Weiss's, and by turning a button in Charrière's instruments), it is converted into an instrument for crushing of considerable power, which, however, is regulated in Charrière's lithotrite by the handle being of a rounded form, so as to slip within the grasp of the hand where great force is required, and thus render the breaking of a properly constructed instrument, even by a powerful person, next to impossible; whereas, by a handle which would give a firmer hold, or by the addition of a fly, an undue degree of force might be employed by the operator, who, acting with so long a lever, cannot well estimate its power. Weiss's instrument, though not larger, is differently constructed, and stronger than that of Charrière or Segalas; and by it the hardest stones met with in the bladder may be broken without danger of its breaking, or of the concave branch being forced out of the convex one. The teeth are small in these instruments, and are not separated from each other: the extremities of the branches are, therefore, as strong at one point as at another. An important improvement has been recently made by Mr. Weiss, consisting in an opening being left in the extremity of the convex branch, which, without weakening the instrument, admits of the

fragments being pressed through, instead of clogging the branches, preventing their closure, and causing laceration of the urethra, or impeding the withdrawing of the instrument, as not unfrequently occurs on the employment of instruments in which this aperture does not exist.

Percussion and pressure may therefore be employed by means of these instruments, either separately or alternated in succession. When the stone can be crushed without difficulty, this method is preferable, as it is attended with less risk of injuring the bladder; it is not so formidable an operation, and it breaks some stones by crumbling them down to a coarse powder, or to small fragments, instead of at once dividing them into two or three large fragments, as frequently happens by percussion, which should be especially avoided if possible, in cases where the bladder is much contracted, or where the fluid injected is forced out. When the stone is brittle, or harder at some points than others, the union of percussion with pressure very much facilitates its division, and when once broken, its fragments may generally be reduced to smaller portions by pressure; for which purpose it is sometimes not even necessary to turn the screw, pushing the ends of the branches against each other with the hand being sufficient.

An accident that may happen with the percussor is obviated by the addition of the screw. The moveable branch, on being struck against some stones, sinks into their substance, and occasionally becomes so firmly fixed as not to be disengaged without considerable force; but by means of the screw the branches may always be separated, and the stone allowed to fall out.

There is in general no difficulty in seizing the stone, which should first be felt with the convex surface, as in common sounding. By depressing the curve towards the floor of the bladder, the stone is pushed a little on one side, and on the inner branch being drawn back it tends to revert to the median line, and will probably fall within the grasp of the instrument; but should this not be the case, it may generally be felt on one side, and may be taken up by rotating the beak of the instrument in that direction. In those cases where the stone is lodged on one side, or behind the prostate, and cannot be felt, it may sometimes be displaced by suddenly tilting up the pelvis. When in the latter situation, the operator will frequently find it by turning the instrument round so as to present its concavity towards the middle of the prostate, and its convexity towards the pubis; by then open-

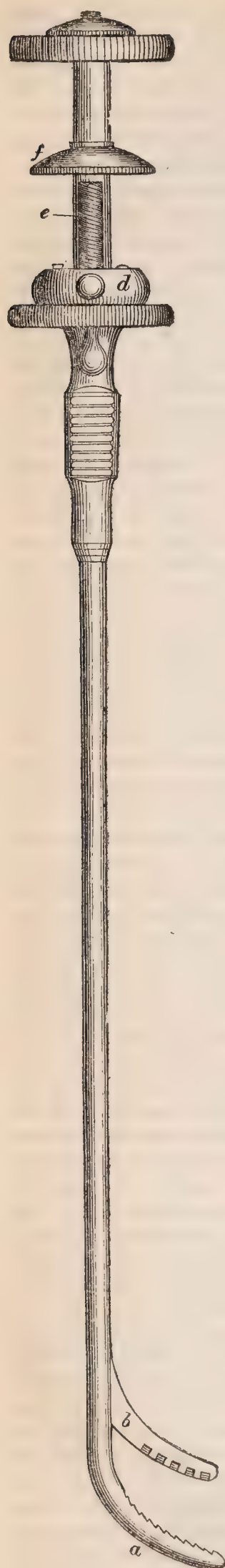


FIG. 1.

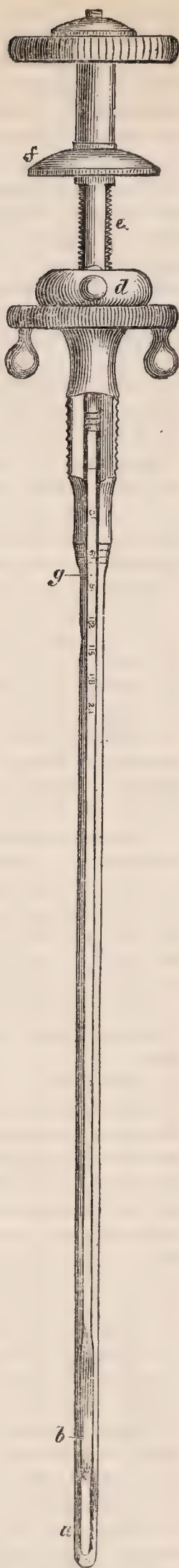


FIG. 2.

ing it, the prostate is drawn forwards, and the stone may be taken up by the extremity of the branches. Fragments lodged in this part may often be taken up in this way. When between the branches, the stone must be held firmly by the thumb of the operator's left hand, pressing on the expanded portion of the handle, if percussion is to be employed, or by turning the button (in Charrière's instrument), when pressure is used. The screw should then be tightened, and if much resistance be experienced, the button should be turned with the knobs transversely, and a few sharp blows struck on the end of the moveable branch with the hammer, the operator holding the instrument firmly in his left hand, or causing it to be held by an assistant, with the wooden handle. When the stone is felt to yield, the knobs on the button should be again turned to the perpendicular direction, and the pressure renewed by tightening the screw till the stone is completely broken, or till the resistance is so great as to require a second time the employment of percussion. In most cases, however, percussion may be dispensed with, and in many a very slight degree of pressure is required.

The instruments combining percussion with pressure offer the greatest number of advantages with the least disadvantages; and are now most generally used. They are simple in construction; need not be larger than a common sound; while at the same time, if properly made, they are not liable to break by the hardest urinary calculi. They may be easily introduced into the bladder, and are applicable to stones of large size, provided the bladder be sufficiently capacious.

The screw forceps and scoop catheter invented by Mr. Weiss will enable the operator to remove the fragments, especially when lodged behind the prostate, with less risk of pinching the mucous membrane than when the lithotrite is employed for this purpose.

CHARRIERE'S LITHOTRITE. — *Explanation of the woodcuts.*

FIG. 1.—Side view.

A, convex fixed branch; B, concave moveable branch; C, round handle of screw; D, button with knobs turned transversely, so as to allow the concave branch to slide within the convex one. E, screw; F, expanded portion of the handle.

FIG. 2.—Front view:

Showing the opening in the extremity of the convex branch, and the knobs on the button turned perpendicularly, for the employment of the screw.

AN EXPERIMENTAL INQUIRY
 INTO THE
 COMPARATIVE STATE OF UREA
 IN HEALTHY AND DISEASED
 URINE,
 AND THE SEAT OF THE FORMATION OF
 SUGAR IN DIABETES MELLITUS.

By ROBT. M'GREGOR,
 Late Apothecary to the Glasgow Royal Infirmary,
 and Lecturer on Chemistry in the Portland-
 Street Medical School.

To the Editor of the Medical Gazette.

SIR,
 If the present Essay be worthy of appearance in your valuable journal, it is quite at your service,

R. M. G.

April 17, 1837.

From the peculiar opportunities presented by virtue of the situation which I have held as apothecary to the Glasgow Infirmary, for a period of nearly seven years, I have been able to make a series of experiments and observations, in reference to the subject of my Essay, and I now endeavour to lay them before the reader in an arranged and condensed form.

Healthy urine is a very compound fluid, transparent and limpid, of an amber colour, having a saline taste, and while warm emitting a slightly aromatic odour. The sp. gr. has been differently stated by authors: the late Dr. Gregory of Edinburgh found the average sp. gr. of the urine of fifty healthy men to be 1.02246. The average sp. gr. of the urine of sixty healthy individuals, which I examined, was found to be 1.0165, while Dr. Prout states it to have been estimated at from 1.010 to 1.015. It must be evident that the sp. gr. of urine is dependent upon contingencies, such as the quantity of liquids taken into the stomach, and the state of the cutaneous and pulmonary exhalations.

From 20 experiments instituted in the laboratory of the Royal Infirmary, 40 was found to be the average of the solid contents in 1000, and 21 that of the urea. The mode of procedure was as follows:—1000 grains of urine were weighed in a counterpoised capsule, and evaporated to dryness upon a steam bath. The capsule, with its contents, was then weighed, and alcohol, rendered as anhydrous as was possible by means

of heated carbonate of potash, was now added, in order to solve out the urea and leave the other solid matters. The capsule was again placed upon the steam bath, and the evaporation was carried to dryness. The weight of the capsule subtracted from the aggregate of its weight, and that of its dried contents, after the first evaporation, gave the amount of solid contents; and that of the capsule, deducted from the conjoined weights of it and its contents, after alcoholic evaporation, gave the weight of urea. By this procedure the amount of solid contents is accurately ascertained; but, along with the urea, a small quantity of animal matter, and a trace of salts, are solved by the alcohol. The quantities are, however, so trifling, that for practical purposes they may be overlooked, as I have ascertained by comparative experiments.

Dr. Thomson's method of estimating the quantity of urea from that of the crystals of nitrate of urea formed by the addition of nitric acid, is more correct, but requires more time, as, to do it justice, the crystals ought to be allowed to form by spontaneous evaporation, without the assistance of the slightest degree of heat, which invariably decomposes it, while the process which I previously mentioned recommends itself both for simplicity and saving of time, two material points gained where a succession of such experiments is conducting.

Urea, according to Dr. Prout, is peculiar to the urine, and is formed by the action of the kidney from some of the constituents of the blood—perhaps the albumen. It most commonly assumes the form of a four-sided prism. Its crystals are transparent and colourless, and have a slight pearly lustre. It leaves a sensation of coldness on the tongue like nitre. Its smell is faint and peculiar, but not urinous. It is neither sensibly alkaline nor acid. It undergoes no apparent change on exposure to air, except in very damp weather, when it slightly deliquesces, but does not seem to be decomposed. Exposed to a strong heat, it melts, and is partly decomposed, and partly sublimes, apparently unaltered. The sp. gr. of its crystal is 1.350.

Water at 60° dissolves more than its own weight of urea; and the solution underwent no change. Boiling water dissolves any quantity of it whatever,

and the urea does not appear to suffer any change at this temperature. Alcohol (sp. gr. 816) at a mean temperature, dissolves about 20 per cent.; and at a boiling temperature more than its own weight; and the urea separates, on cooling, in a crystallized form. It is very sparingly, if at all, soluble in sulphuric ether, or the essential oil of turpentine, though these fluids are rendered opaque.

It would be an object to have a standard for the quantity of urea passed by an healthy adult during twenty-four hours, with which to compare the differences in different diseases. If we fix the diurnal average quantity of urine passed by an individual at three pounds, of which every 1000 grs. contain 21 grs. of urea, it will be evident that the diurnal quantity of urea will be 362 grs., omitting fractions. A case presented itself lately at the Royal Infirmary, which, taken as an individual, might be viewed as calculated to serve this purpose as well as any having come under observation. A Highlander, 18 years of age, was admitted with a malformation of the bladder since birth. The anterior wall was absent, with the corresponding integuments; the mucous coat of the posterior wall presented itself to view, and exhibited the urine distilling from the orifices of the ureters, drop by drop: the urine, therefore, could have undergone no decomposition from lodging in a reservoir such as the bladder, to be evacuated at the will or convenience of the individual. The quantity passed during twelve hours was kept, and found to weigh lbs. 3, drachm 1, scruples 2, grs. 2, or 17,882 grs.: 1000 grs. treated as above, were found to contain 12 grs. By calculation he must have passed, in 24 hours, 428.5 grs. I have no doubt, however, that this is rather beyond the healthy standard, because he was at the time in good health, consumed an ordinary quantity of food, with but little exercise.

It, however, had the advantage of there being no chance of the slightest portion of urea undergoing decomposition, as might in ordinary cases happen. By keeping, the urea undergoes decomposition; thus presenting the most manifest source of the ammonia developed during urinary putrefaction. I have kept a specimen of urine, which, upon being voided, was found to contain

18 of urea per 1000, for a month, and found it, at the end of this period, to be completely devoid of urea, thus showing that newly-voided urine alone can be taken as a standard, and that urine voided directly from the ureters is much more natural than that from the bladder; as urine voided directly, even from a healthy individual's bladder, has frequently been observed to contain a volatile alkali, independent of the introduction of such into the stomach.

Assuming that the above standard has been adopted for comparison, let us inquire if, from experiment, the diseases which have been alleged to be marked by the absence or deficiency of urea in urine are found to be so.

Of these, diabetes mellitus is the most striking, more particularly from the many experiments and inquiries made in reference to its nature and treatment. The absence of urea in diabetic urine, chemists admitted for a long period; but Dr. Henry and Mr. Kane have established its presence: the former has established its existence, while the latter has not only confirmed it, but has shewed that a diabetic patient passes as much urea as a healthy adult. Dr. Henry shewed that urea, mixed with a considerable quantity of sugar, will not be discovered by the test of nitric acid; and, consequently, though present in urine, it may be overlooked. He has succeeded in detecting it in such cases by distillation, urea being the only animal principle which is converted into carbonate of ammonia above a boiling temperature. Mr. Kane has succeeded in separating the nitrate of urea in crystals, by employing as a test nitric acid diluted with an equal quantity of water, and plunging the mass into a freezing mixture of salt and ice. He has thus proved that diabetic patients void, in the course of twenty-four hours, as much urea as healthy persons do.

Observing, as Dr. Henry shewed, that the crystallization of the nitrate of urea is prevented by the presence of sugar, it occurred to me that the destruction of the sugar would remove any obstacle to the procuring of the urea in a state of purity. With this view 1000 grains of diabetic urine, of the specific gravity 1.040, were fermented by the addition of a little yeast: at the end of forty-eight hours the fermentation ceased, and the

specific gravity was found to be 1.001; it was then evaporated to dryness over a steam bath, and weighed twenty-four grains. The residuum was now treated with strong alcohol gently heated; the solution was filtered and evaporated to dryness; the residue fused, crystallized on cooling, and weighed nine grains. The experiment was repeated, and gave exactly nine grains. 1000 grains of the urine, passed next day, which had a specific gravity of 1.039, similarly treated, gave 11.5 grains of urea, and on the fourth day gave ten grains. The mean quantity of urine passed during four days was 102,583 grains, and the mean quantity of urea in 1000 grains of the urine was 9.88 grains, thus shewing that 1013.5 grains, or 2 oz. 2 scruples, $13\frac{1}{2}$ grains of urea, were daily passed, while only 428.5 grains were discharged by the healthy individual. The experiments were performed immediately after the patient's admission, and before he had undergone any treatment: the disease was unchecked, and presented all the symptoms of a confirmed case of diabetes mellitus.

A second case of diabetes, equally well marked, with urine of specific gravity 1.045, and passing thirty pounds in the course of twenty-four hours, was examined, and found to yield 945 grains of urea in the course of the day. A third case, discharging forty pounds of urine, of specific gravity 1.034, and in other respects equally characteristic of diabetes mellitus, yielded 810 grains of urea in the twenty-four hours. A fourth, passing twenty-five pounds of urine, of specific gravity 1.050, and fully diabetic, gave 512.5 grains of urea. Several other cases have I examined, and with similar results, thus shewing that a diabetic person passes more urea in twenty-four hours than a healthy individual, though the per centage is less. By the preceding method the separation of the urea becomes easy. I experienced a little difficulty at the commencement, in effecting a complete decomposition of the sugar by means of the yeast; but, after several trials, I found that a temperature from 70° to 100° F. answered best, both for beginning and completing the fermentation; and that, by introducing first the yeast into the vial, and cautiously adding the urine, so as to disturb the yeast as little as possible, I

gained a material step; for the decomposition of the sugar seems to be going on only at the point where it is in contact with the yeast.

Of all tests for sugar, yeast appears the most delicate, as half a grain of the former can easily be detected in two ounces of liquid. Diabetic saccharine urine in summer undergoes spontaneous fermentation, which, however, is seldom or never complete.

The highest per centage of urea in urine, which I have met with, occurred in the case of a diabetic patient, who was fed upon beef and water exclusively for three successive days. It amounted to 4.3, or 43 grs. in 1000. In healthy urine the urea occasionally amounts to 3 per cent. In such cases the nitrate of urea crystallizes spontaneously within half an hour after the addition of the nitric acid. Albuminous urine, which is often observable in diseased kidney, inflammatory anasarca, and other diseases, has been alleged to be void of urea; but Dr. Prout has shown that it is always present in the above sort of urine. The sp. gr. of albuminous urine is generally considerably lower than that of healthy urine, and coagulates by heat, acids, prussiate of potash, &c.

In order to ascertain the presence of urea in albuminous urine, it is necessary to coagulate the albumen by heat, and to dry it accurately over a steam bath: the coagulum is sliced and divided as minutely as possible, and then boiled in alcohol, which dissolves out the urea.

In one case of albuminous urine, thus treated, and having a sp. gr. of 1.012, I found 1.55 per cent. of urea: in a second case of sp. gr. 1.010, 1.2 per cent.: in a third of sp. gr. 1.009, 1.1 per cent.: and in a fourth of sp. gr. 1.014, I found 8 per 1000—thus showing that urea, though diminished in quantity, is by no means absent. Owing to the firm coagulum formed by the albumen, its impermeability to alcohol, and the consequent protection which it affords to the urea, I have no doubt that a considerable quantity of urea is still kept enveloped by the albumen, and thus the per centage of urea in the cases mentioned above was much higher than the results.

Of diabetes insipidus, a disease whose existence has been doubted by some, I have met with two well-marked cases:

one of them is still under my eye. The disease is distinguished from diabetes mellitus by the low sp. gr. of the urine, frequently under 1.003, its want of colour and taste, the perfect absence of sugar, and by the patient's appetite for food being less voracious, while the thirst is equal, if not greater. The disease in both cases has been going on for years.

One of the cases was found from repeated trials to have passed, at an average, 310 grs. of urea per diem; the other 400 grs. The sp. gr. in both ranged from 1.002 to 1.005. The only treatment used, and that in one of the cases only, was the administration of a few grains of opium daily. This had the effect of diminishing the thirst, and with it the quantity of urine: the sp. gr. rose to 1.012, and, after the continuance of the opium for a few weeks, the patient felt very sanguine of a cure, the opium was gradually discontinued, and to this succeeded the return of the disease.

In one case of albuminous urine of sp. gr. 1.012, it was found that 322.5 grs. of urea were voided; in a second of sp. gr. 1.014, 180 grs.; and in a third having the same sp. gr. 274 grs. of urea were voided daily.

In a case of well-marked jaundice, the urine being of a sp. gr. of 1.014, 217 grains of urea were passed per diem; in a second, urine of sp. gr. 1.020, 325 grs. were passed; and in a third, urine of sp. gr. 1.012, 315 grs. of urea was the amount.

I have examined the urine in several cases of fever and small-pox, in the different stages of the disease, but found the difference very trifling.

Urea has been detected in the blood in cases of suppression of urine. Prevost and Dumas, two days after tying the renal arteries of a dog, and excising the kidneys, obtained 20 grains of urea from 5 oz. of his blood. Dr. Christison found urea in the blood of persons suffering under renal disease; and it has been detected by Dr. O'Shaughnessy in the blood of persons labouring under cholera. I have attempted to discover it in the blood of healthy individuals, but in vain, though I had employed several pounds of serum in each experiment.

[To be continued.]

PROPAGATION OF INFLUENZA.

To the Editor of the Medical Gazette.

SIR,

I SHOULD sooner have answered the remarks of your correspondent, Mr. Morgan, on my paper, had not unavoidable engagements prevented me.

I was surprised to find that any one could so far misunderstand my meaning as to say that I supposed the influenza to be contagious; and although Mr. Morgan attempts to prove, *seriatim*, that my conclusions are not only erroneous, but subversive of my premises, I think it must appear to every attentive reader that he is combating with a shadow, for the word contagion does not once occur in the whole course of my letter; but the fact is, Mr. Morgan does not appear to make a distinction between a contagious disease and an epidemic one. By a contagious disease we mean one that is propagated by contact, the word itself being derived from *contingo*, to touch; whereas an epidemic disease means one originating in the state of the atmosphere—whether that state is merely one of sudden transition, producing a specific disease amongst a great number of persons, or whether it is some morbid matter impregnating the atmosphere, which produces similar effects. In either case, I conceive the disease to be epidemic; the same effects being produced in a great number of individuals, by one common cause. Mr. Morgan himself admits that he believes the disease to have originated in the state of the atmosphere; and the only point at issue between us seems to be, that he attributes its origin to the sudden change of temperature, and I, to a peculiar state of the atmosphere, independent of temperature.

Such being the narrow compass into which our difference of opinion is brought, I do not think it necessary to defend my positions point by point, as it is evident Mr. Morgan was reasoning upon false premises; I would only request Mr. Morgan to bear in mind that the disease appeared in Sunderland during the continuance of the frost, and consequently before any change of temperature took place. I would also

refer him to a notice of the occurrence of influenza in various parts of the world, and under all varieties of climate, contained in the same number of the GAZETTE in which his letter appeared (p. 129).

On the other hand, had I really stated it as my belief that the influenza was contagious, I should only have followed in the footsteps of Hippocrates, Sydenham, Cullen, and many other eminent and illustrious writers.—I remain, sir,

Your obedient servant,

EDW. GREENHOW, M.D.

North Shields, May 3, 1837.

ON THE
COMBINATION OF MOTOR AND
SENSITIVE NERVOUS
ACTIVITY;

OR, ON THE

PRODUCTION OF SENSATIONS BY MOTIONS.

BY PROFESSOR STROMEYER,
Hanover.

Translated from the "Göttingische Gelehrte
Anzeigen,"

(With Additions, communicated by the Author,)

BY W. J. LITTLE, M. D.

[Concluded from page 158.]

Olfaction — Connexion with the Respiratory Nerves — Perfectness of, dependent upon Action of Muscles — Influence of the Trigemini — Compound Nature of Olfactory Sensations. — Touch — Its Accuracy depends upon Action of Muscles — Cause of the Pain of Fatigue in the Limbs, and increased Action of the Heart, in walking — Use of the Muscles of the Clitoris, and of the Erector Penis and Accelerator Urinæ — Priapism. — Action of Detrusor Urinæ — Modus operandi of Homœopathic Remedies — Nature of the Pains of Delivery — Neuralgia, connected with increased Activity of Motor Organs — Irritable Testis caused by spasmodic Contraction of the muscular Fibres of the Inguinal Canal — Conclusions.

Olfaction.—The susceptibility of the nervus olfactorius to odours is so intimately connected with the functions of the respiratory nerves, that it must excite surprise that this circumstance has not yet attracted the attention of physiologists. It appears that the perception of the finer odours takes place only during inspiration, and without inspira-

tion many powerful and volatile odoriferous materials are not smelt at all.

If we hold a handkerchief sprinkled with eau de Cologne immediately under the nose, we do not perceive the odour of it until we inspire, although the volatile parts of the eau de Cologne have long diffused themselves in the nostrils. When we hold our breath also, we cease to smell. If we lay a pinch of highly-scented snuff upon the floor of the nostrils, by means of a director or any other contrivance, we can perceive its odour for a long time, during each inspiration, but not during the intervals. The explanation of these facts has hitherto been thought very simple; for it was said, that the current of air reaches the upper parts of the nasal cavities only during inspiration, although the anatomical form of the nostrils makes it by no means intelligible that the current of air follows an essentially different direction during expiration than during inspiration. This assumption, I admit, may not be quite void of accuracy, but it does not explain why olfaction entirely ceases during expiration, the more particularly as we can, when expiring, direct the current of air upwards—as, for example, in blowing the nose—without affecting the olfactory nerves. At all events, currents of air through the nostrils are required for the perception of odours. If odoriferous materials be placed in the nose, the nostrils be held closed, and breathing be carried on by the mouth, no smelling takes place. Currents mechanically effected do not, nevertheless, suffice to excite the olfactory nerves. If we pour some eau de Cologne, or a portion of any odoriferous material, into a pair of bellows filled with air, and then inject the air into the nostrils, it is certainly found that a perception of some odorous matter ensues, but the sensation is not sufficiently distinct to enable the subject of the experiment to say positively what he smells; whereas, on the contrary, the least inspiratory effort on his part makes him perfectly conscious of its nature.

Experiments should be performed for the elucidation of this matter, which is by no means exhausted, upon persons who have received a wound of the trachea, through which they breathe; and I should consider the correctness of the assertion—that the respiratory nerves by their activity render the olfactory

nerves susceptible to the impression of odorous materials—fully demonstrated, if in such individuals a finer perception of odours took place, by injection of impregnated air into the nostrils, during inspiration than during expiration.

Many will probably make the following objection to my theory—namely, that it is not unlikely that the odorous materials which we breathe are decomposed in the lungs; this does not, however, take place. Agreeably scented air, the fragrance of which we have already smelt, can, after it is expired, produce the same impression, although somewhat weaker, upon re-inspiration. If we swallow a little strongly odoriferous substance, the oil of turpentine, for example, or only apply a little upon the posterior part of the tongue, we imagine that we smell it during expiration; but in this case the difficulty of distinguishing taste from smell is so great, that we do not know accurately which of those two senses has received the impression.

The nerves of the fifth pair, distributed to the nasal cavities, exert a certain influence during olfaction; they feel probably the mechanical impression of the currents of air, simultaneously with the perception of the odour by the first pair of nerves. The sensibility of the nerves from the fifth pair is not varied during inspiration, for painful sensations in the nasal cavities are neither increased by inspiration, nor diminished by expiration. Magendie's experiments appear to demonstrate that the connexion of the nose with the respiratory organs, which is indicated by the act of sneezing, depends upon the fifth pair of nerves, as, after division of the olfactory nerves, sneezing may still be excited by irritation of the nasal cavities. The olfactory nerve, on the contrary, is insusceptible of ordinary sensation; it may be pinched, or otherwise mechanically injured, without the production of pain.

The greater part of the impressions which the nose receives are undoubtedly of a mixed nature; they are compounded of olfactory perceptions and common sensation. It is not alone the delightful fragrance of the rose, perceived by the olfactory nerves, which refreshes us, but likewise the cool fresh air produced by the evaporation of its moisture, felt by the trigeminus. This explains why

perfumed essences are so much liked: the evaporation of their contained spirits of wine produces refrigeration, which is felt at the same time as the odoriferous oil is perceived. A similar mixed impression is obviously connected with snuff-taking. In habitual snuff-takers, impression upon the olfactory nerve is wanting, and the fifth nerve alone feels the mechanical and chemical stimulus of the snuff. It is well known that the expiration which accompanies sneezing is preceded by a spasmodic closure of the air-passages. We may therefore correctly assume, that the expiration of sneezing is not excited directly through stimulation of the nose, but secondarily, or by reflex motion from the larynx, in the same manner as cough arises through the contraction of the bronchi upon the matter to be expelled, causing, by *combination of motor and sensitive nervous activity*, a tickling sensation in the larynx, which then induces the peculiar expiration called cough. In sneezing, therefore, the reflex activity of the vagus, as *motor nerve in the larynx*, through excitation of the trigeminus, as sensitive nerve, must be taken into consideration. The re-actions between the nerves of the nasal cavities and the nervus vagus, are numerous. Many odours produce uncomfortable feelings in very susceptible individuals—for instance, the odour of rhubarb; other odorous articles diminish already-existing indisposition—for example, acetic æther, or spirits of hartshorn. Morbid perceptions of odorous materials are produced most frequently by affections of the stomach. If olfaction be intimately connected with any of the respiratory nerves, we must decide that it is with the vagus, in its office of motor nerve. The importance of this connexion of the sensorial nerves of the nasal cavities with the motor parts of the vagus, is evinced by the difficulty of respiring during closure or obstruction of the nostrils; for, in a mechanical point of view, respiration ought to be effected as readily by the mouth as through the nostrils. Infants not unfrequently pass sleepless nights merely through the nose being obstructed by desiccated mucus.

Touch.—In order to examine an object by the touch, we usually perform certain motions which, besides a mani-

fold investigation of the surface, inform us, by the degree of resistance experienced by the finger, concerning the hardness or softness of the object. Active movements of the feeling organ are nevertheless not indispensably necessary to enable us to judge of the nature of the surface of a body, for we can also feel the body which touches us, but much more distinctly that which we ourselves touch. Our attention concentrates itself more upon the finger we move. Thus, let a person take a large coin, and gently rub its inscription or portrait upon the tip and anterior surface of a finger, in a manner similar to that in which he would have moved the finger over it. The majority of persons upon whom I have observed this experiment could not distinguish the head from the inscription. Some said it seemed as if they could not feel with the finger. This may be explained, it is true, through the unaccustomed mode of application of the sense of touch. The cause of it may, however, lie deeper, and the concentration of the attention upon one finger may depend upon the operation of the will upon the muscles. I have met with some individuals who, in the above-mentioned manner, could feel very distinctly; the experiment therefore leads to varying results. But this must not surprise us, for nobody will deny that our will may act upon the muscles without causing visible motions; for in endeavouring to hold any part (a finger, for example) in a given position, we act, during the whole time, upon certain muscles. The anatomical distribution of the cutaneous nerves favours my notions; for the prone surface receives its cutaneous nerves from the same nerves as the flexor muscles, and *vice versa*. Nature has also distributed to those parts which she has endowed with an acute sense of touch, an abundant muscular apparatus and great moveability; whereas those parts endowed with a less acute sense of touch admit of no motion *per se*. (See, on this subject, the interesting investigations of Ernest Heinrich Weber.)

This theory does not appear applicable to the mucous membrane of the hard palate—the sensibility of this part to taste, is, however, probably explicable, that the action of the muscles supplied by the hypoglossus affect the innervation of this part of the mouth.

The pain of the knee from contraction of the *psoæ* and *iliacus*, in *coxalgia*, shows how distant from one another parts may be situated in which muscular action calls forth sensations. Weber's experiments upon the acuteness of the sense of touch should be so instituted that certain movements could at the same time be performed. Blind persons, in whom the sense of touch is usually so fine, would be particularly fitted for these experiments.

The case of paralysis related at the commencement of this paper, of which analogous instances must be familiar to every practitioner, is a striking contribution to the theory, that the sense of touch in the skin is increased to the extent of enabling us to form distinct perceptions, solely in consequence of certain muscular contractions. Although the lady, in that case, had not suffered the least paralysis of sensation, as every external stimulus was felt by the paralytic the same as by the healthy limb, yet, when she rested the body upon the injured limb, by which the body was propped up to a certain extent by the bones, she did not feel the sensation of touching the ground with the foot; on the contrary, she appeared to tread, as she expressed herself, upon a spring, or upon a bladder filled with water. She attributed her inability to step out upon the foot to this abnormal sensation. Some may say that she was conscious of the impotence of her muscles, and that this consciousness was derived from the sensation felt by her in the sole. This is correct, precisely as by over-contraction of the *psoas* and *iliacus* pain at the knee is produced; with this difference, however, that the above explanation is an empty sentence, instead of a physiological exposition. *The patient had not that innervation of the cutaneous nerves which arises from the contractions of the muscles.*

Violent exertions (such as long walks) induce less pain in the muscles than in the joints, on which the peripheral extremities of the cutaneous nerves are distributed. After over-long walking, we use frictions of the ankle and knee-joints; for these latter, and not the muscles, appear stiff and painful. After rubbing some time we feel re-invigorated, through some beneficial operation upon the sensitive nerve being communicated by reflexion to the muscles.

The activity of numerous muscles obviously increases sensibility upon a larger scale. The erect posture alone produces increased frequency of the heart's action; walking and more violent exercise do so still more. Epileptic convulsions do not invariably accelerate the motions of the heart: this affords a satisfactory proof that augmentation of sensibility is the cause of increased action of the heart during violent exertions, for it is well known that during epilepsy the perception of organic as well as animal sensations is diminished, or even annulled. From the phenomena of epilepsy, therefore, we must, for the most part, renounce the notion that violent exertions and standing excite the heart merely mechanically.

The organs of generation are endowed with a sensibility differing from common sensation. This peculiar sensation is, in the male, concentrated in the glans penis; in the female, in the clitoris. As the muscular power of the clitoris possesses evidently no important mechanical object, it is very probable that the musculus erector clitoridis has been imparted to the organ for the same reason that the immoveable muscles have been given to the human ear—namely, to enable volition, or the imagination, to act upon it. If the excitation which produces erection be mechanical, the first impulse must evidently come from the nerves of sensation; but if the imagination excite the generative organs, the first impulse can only take place through centrifugal nervous currents, and these necessarily in motor nerves. This leads to the conclusion that in the male, to whom the property of erection has been given not merely for the purpose of exciting venereal feelings as in the female, the first impulse of the imagination affects the ischio and bulbo-cavernosi muscles, and that through their contraction the impediment to the reflux of the blood is produced; without which, notwithstanding Mueller's interesting discovery of the arteriæ helicinæ, erection cannot be conceived to take place. The activity of these muscles excites the sensibility of the parts of generation; this increased sensibility re-operates upon the muscles, and thus the erection is continued and increased until excitement, augmented to the highest degree, produces a fresh reflex motion—ejaculation. Priapism is the excess of

erection—tonic spasm and neuralgia. Erection essentially depends upon the combination of increased innervation of the sensitive nerves of the external parts of generation, and of the motor nerves of the ischio—and bulbo-cavernosi acting reciprocally upon one another. Contractions of the same muscles, induced by other causes—for example, irritations in the urethra or bladder—produce spasm, but in general no complete erection. We can postpone for hours the necessity of voiding urine, even to the length of producing paralysis or inflammation of the bladder; but with the desire to void it, the contraction of the detrusor ensues, which we, nevertheless, are not able to contract voluntarily. It is probably the same with the bladder as with the ear; the influence of volition upon its muscular fibres is not adequate to the production of voluntary contraction, but it suffices to augment the sensibility of the sensitive nerves, to the extent that the stimulus of the urine in the bladder reaches the sensorium, by which a reflex contraction of the detrusor is induced. In like manner, perhaps, the imagination is able to produce evacuations of the bowels—by the administration of homœopathic remedies, for example.

The combination of motor and sensitive phenomena extends undoubtedly to the viscera supplied by the sympathetic system; and to this is attributable the apparent consensus of mucous membranes with distant sensitive nerves, evidenced, for example, by the itching of the nose through the irritation of worms. We are well aware that all the nerves of the senses are intimately connected with the chylopoietic and adjuvant viscera, and amaurosis arises very frequently *ex abdomine*. The most approved remedies for such derangements are antispasmodics, tonics, and laxatives, the object of which is to restore the secretions, which have been disturbed, not by inflammation, but by a perverted action approaching to spasm. Who would be inclined to attribute the disturbed secretions merely to the sensitive parts of the sympathetic, and not accuse its motor filaments to an equal, if not greater degree? Irregular or morbid actions of the muscular tissues of the abdominal organs form the combinations with the nerves of the senses, which, in the case of the eye, lead to amaurosis,

—in the ear, to deafness. Both these complaints are frequently preceded for a long time by hyperæsthesis, intolerance of light, or noises in the ears.

Numerous, it is true, are the other abdominal causes of these affections of the organs of the senses. The characteristic lumbar pains of delivery, which are present chiefly during the contractions of the uterus, or at least are then considerably increased, confirm my views. I allude to the pains in the loins, and not to those of the extremities, as it might be presumed that the latter arose from pressure of the uterus upon the nerves of the lower extremities, whereas the trunks of the cutaneous nerves of the lumbar region arise too high to be pressed upon. It is clear that pressure upon the nerves is not the cause of these pains, because they may be relieved by pressure upon the lumbar region itself, by means of a pillow or the hand of an assistant. Pressure upon the trunks of the nerves could, it is true, produce the sensation of pain in their peripheral extremities at the loins, but the peripheral extremities themselves would necessarily be insensible; and therefore no pressure of the pillow at the loins could be serviceable.

In a similar manner, pressure diminishes for a time the purely symptomatic headaches; in *tic douloureux*, however, the locality of the pain is not so adapted to the application of pressure as the surface of the cranium or the loins. The pain in the back coincides regularly with the contraction of the uterus; therefore the action of its motor nerves is combined with augmented sensibility of the sensitive nerves of the lumbar region. On the other hand, I would suggest the use of frictions of the loins, with *liq. ammoniæ caust. &c.* in lingering labour, in order to accelerate the pains, by *reflexion*. If the contractions of the uterus be the cause of the lumbar pains, through the *combination of motor and sensitive nervous activity*, we may draw an inference from them of the condition of the uterus during the convulsions of lying-in women. Instead of the activity of the motor nerves of the uterus being primarily increased, it is the sensitive nerves which are inordinately excitable, and their irritation consequently acts through reflexion upon the general muscular system.

The question, in what manner the neuralgiæ are explained according to

this doctrine of the combination of nervous activities, must have already forced itself upon the attentive reader of the above pages. It has been long recognized in the explanation of spasm, and Marshall Hall has distinctly expressed his opinion to the same effect, that both of the agents of nervous activity must co-operate—the sensitive nerves for the reception of the irritation, the motor nerves to reflect it to the parts susceptible of contraction. I know not whether a similar principle has been advanced in explanation of neuralgias; at any rate it is not generally adopted. Indeed, these painful affections have ever constituted one of the most mysterious chapters of pathology, in the discussion of which we are usually dismissed with empty, though high-sounding sentences.

It has latterly been believed that neuralgias are local organic diseases of the sensitive nerves, or of the immediately adjacent structures,—a belief that was supported by occasionally finding exostoses and other tumors pressing upon the nerves, and in some cases enlargements of the nerves themselves. The presence of these tumors, however, does not explain a characteristic peculiarity of neuralgias—the sudden accession and disappearance of the pains, comparable only to electrical discharges, and without the supervention of any cause cognoscible to our senses.

It is scarcely conceivable that so violent a local irritation can exist without reflexion in the motor nerves; nor is it probable that the alternating innervation of the painful nerves can occur without being connected with spasmodic contractions of some muscles, no more than a cramp can arise without previous affection of the sensitive nerve. After every amputation, the cut ends of the nerves enlarge into pestle-shaped tumors, but they are only in few cases accompanied by a painful state of the stump, which we are obliged occasionally to re-amputate. Pressure purposely effected upon the ulnar nerve produces a continuing pain, but no alternating attacks. Besides, then, the local irritant, a second agent must be in operation. We are led at once to seek this second agent in a combination with spasmodic contractions.

If the pain in the knee of coxalgia be the consequence of a contraction of the *psoæ*, which the patient does not feel in

the muscles themselves, just as the lying-in woman does not feel the pains in the uterus, it follows that this second agent of neuralgias cannot be recognized by the sensorium. We may therefore cherish the hope, that by careful observation, and with the aid of the theories of *reflexion* and *combination*, we may succeed in discovering the seat of these spasmodic contractions, as we have done the cause of the knee-pain.

The connexion of neuralgias with abdominal affections has long since attracted the attention of practitioners: they resemble in this respect the hyperæstheses of the nerves of the *senses*, but differ from the latter by the cruel peculiarity of not passing so readily into torpor and paralysis, the cause of which it is not difficult to perceive. The curative means of neuralgias appear to be those capable of acting upon both agents of the nervous activity.

We not only seek with the aid of narcotics to diminish the excitability of the sensitive nerves; we endeavour also by means of tonics to blunt the irritable parts against the occurrence of spasmodic contractions; and thus, according to that which I have advanced, both classes of remedies have in the end the same object—to interrupt the combination between motor and sensitive nerves, which has developed itself to excess. If the most efficient and most frequent cause of neuralgias did not consist in the excessive reactions of these combinations, instead of the existence of local diseases of the sensitive nerves, would not paralysis be much oftener the consequence of neuralgia than it is? It is, on the contrary, known that they can make the whole course of a man's life wretched. The frequent paralysis of the portio dura through slight inflammation in its neighbourhood, shows that much is not requisite to paralyse a nerve during an organic morbid process. It is true that there are neuralgias in which the peripheral extremities of the nerves, in which the patient imagines that he feels the pain, are paralysed and insensible when touched. In such cases we may with a degree of certainty infer the existence of a local disease of the trunk of the nerve, from which diseased and excited spot the centripetal currents of nervous influence proceed.

It will, I think, be easy to conceive, by means of the doctrine of *combinations*,

why the division of neuralgic nerves is so seldom productive of benefit, why the pains are seldom limited to single trunks, or follow their anatomical course, why new branches are effected when the excitability of those first attacked is exhausted, or when they have been cut through. For the combination of motor and sensitive filaments are infinitely numerous, nervous trunks are only juxtaposed nervous filaments, and the motor agent is usually beyond the reach of the surgeon's knife.

I cannot deny myself the satisfaction of illustrating my theory by a neuralgia, in which it can be demonstrated that the first impulse of the pains proceeds from the motor agent. I allude to neuralgia of the testis, termed by Sir A. Cooper irritable testis. This neuralgia differs from many others in the circumstance that it vanishes by absolute rest of the patient upon the healthy side. The patients, therefore, generally sleep well, and setting aside the almost absolute repose in which they are forced to continue, they suffer no essential disturbance of the general functions. The affected testicle is somewhat swollen, hangs a little lower than the other, and there is a constant urgent necessity of supporting it. The slightest motion, standing or walking, produces the most acute pains, not only in the testicle, but also in the skin in the neighbourhood of the inguinal canal. The disease may be sometimes relieved by the ordinary remedies of neuralgia, and by issues in the inguinal region, or it may require castration, by which it is radically cured. The section of neuralgic nerves is, as I have before mentioned, a very dubious remedy: as, therefore, castration is successful in neuralgia of the testis, it follows that the cause of the disease is situated at no great distance. The appearance of the pains upon the slightest motion, particularly by rising upright, or by walking, shows that the action and stretching of the abdominal muscles which contribute to support the trunk erect, have some connexion with the production of the pains. The contraction of the abdominal muscles narrows the inguinal canal. In incipient inguinal hernia the tumor appears when the patient coughs or stands up, by which the power of contraction of the inguinal canal is diminished in the proportion that the impulsion of the intestine is increased. The mere diminu-

tion of the abdominal cavity by pressure upon the bowels will not cause the appearance of the hernia. The contractions of the inguinal canal are not felt by the spermatic cord in the healthy condition of the parts, and even a very tight truss may be worn without pain in the cord. But if the contractions of the canal occur spasmodically, which, owing to its muscular structure, is certainly of very probable occurrence, for all muscular parts are subject to spasm, the spermatic cord will be inordinately pressed upon in its entire circumference, constituting one source of pain, and, on the other hand, through augmented activity in the motor filaments of the *nervus spermaticus externus* distributed to the parietes of the canal, an increased centripetal current of nervous influence in the sensitive portion of the *N. spermaticus internus*, indicated by pain felt in its peripheral extremities, in the testicle, will take place.

Thus increased irritability and cramp constitute the circle which keeps up the patient's sufferings—a torture removable at will by avoiding every motion capable of exciting the inguinal canal to contraction. The slight swelling of the vessels of the testis, and its hanging lower than the healthy gland, may be mechanically explained, the one state from pressure upon the veins, the other from pressure upon the motor nerves of the cremaster, which are given off in the canal. Castration cures this disease, through the cord subsequently shrinking and receding in the canal. I am of opinion that neuralgia of the testis may as readily be cured by slitting open the external parietes of the canal, exactly as the painful spasm of the sphincter ani is cured by division of that muscle. I should not fear giving rise to the production of a hernia after the operation, for the cicatrices of muscles and tendons are very firm, and the object of the incision would not be to enlarge the area of the canal, but to cure the spasmodic disposition of the muscle. It is unnecessary to stop here to explain how far the application of my views will serve to elucidate the origin of hernia humoralis.

In neuralgia of the testis the affected motor and sensitive nerves lie in anatomical and physiological relation, very near to one another, and the motor agent is accessible to the knife; in neuralgia of the face, the motor source lies to all

appearances deeper, and most probably in the abdominal viscera. Nevertheless we may apply the experience gained by the observation of a process going on comparatively superficially, to the study of those more deeply seated, just as the phenomena of external inflammations are successfully applied to the elucidation of those internally situated.

In concluding my observations upon the law of *combination*, with its application to a practical subject hitherto so clouded, I am far from believing that I have adduced for its fundamental confirmation any conclusive evidence.

I do not doubt that hecatombs must be sacrificed to the genius of modern physiology, before the correctness of my theory can be considered fully demonstrated. I am not deficient in the spirit of invention necessary for experimenting upon animals, but I have not the inclination needed for their execution. I willingly leave this part to the physiologists by profession, whom I must, however, remind, that "*irritation of a motor organ, by mechanical or other means, does not induce increased currents from the central organs of the nervous system, towards the spot irritated,*" but only from the irritated spot of the nerve downwards: and for this it is indifferent whether the muscular fibres themselves or their nerves be irritated. "*In order, therefore, to cause currents to emanate from the centre, reflex motions must be produced;*" for they alone, like the emanations of the will, are combined with centripetal currents in the sensitive nerves. Irritation of motor nerves will never produce such combinations, as the nervous currents in the motor nerves are only centrifugal.

As I only consider this short treatise as a somewhat diffuse thema for physiological investigation, I will add the following theses to it, as they are intimately connected with it:—

1. By the activity of motor nerves there are excited not merely combinations in the sensitive nerves, but the innervation of other motor parts is diminished—for example, during the activity of the flexors that of the extensors is lessened; during the activity of the respiratory muscles that of the inspiratory suffers; so that, for instance, the *latter* may even be paralyzed by violent and long-continued cough.

2. The vegetation of different organs,

between which a *combination of motor and sensitive-nervous activity* exists, is intimately connected. If there really be vegetative nervous filaments, they run probably in company with the symmetrical nerves. Perhaps, however—indeed, it appears to me exceedingly probable—there is no difference between the nature of the influence of the nerves of motion and sensation, on the one hand, and that of those of vegetation on the other, except *in modo*.

3. The influence of the ganglionic system upon the vegetation of those parts not supplied with ganglions, consists in the development of the *combined* and *reflex* functions of the symmetrical nerves. The office of the ganglions is to keep up the effects of received impressions longer, and to maintain the combinations of nervous activity in vibration, as it were, until fresh vital stimuli come into operation.

4. There are no cotemporaneous motions without intervening sensitive combinations.

5. There are no cotemporaneous sensations without intervening reflex motions*.

CASE OF

SPONTANEOUS MORTIFICATION OF THE TOE

TREATED BY TIGHTLY BANDAGING THE LEG.

To the Editor of the Medical Gazette.

SIR,

A SHORT time since I was requested by a physician to visit the lady of A. B., Esq. about sixty years of age. A few weeks previously to this she had been the subject of very severe illness (chiefly an inflammatory affection of the liver), but had so far recovered her strength and general health as to be enabled to resume her usual pursuits. When I first saw her she was suffering from mortification of the great toe on the left foot, which had rapidly come on, without being able to assign any local injury as the cause of the attack. The dorsum

of the foot was swollen and inflamed, especially in the direction of a line beginning from the junction of the great and second toes, passing obliquely outwards, and gradually diminishing in breadth and intensity, until it had arrived at a point between the instep and external ankle. The second toe was cold, livid, and nearly insensible; the third considerably discoloured, but sensible; and the fourth and fifth toes still less discoloured, and more sensible. The chief seat of the mischief was the great toe; consisting of a circumscribed slough about the size and form of a sixpence on its upper and outer surface, just behind the root of the nail. All the anterior parts in front of a circular line drawn around the toe at the posterior boundary of the slough, were livid and insensible; but the cuticle was not detached, nor was the nail at all loose. These appearances had presented themselves within the space of three or four days, and were proceeding with great rapidity along the foot, as well as in the adjoining toes. The general health did not at present seem to be much impaired, the appetite was good, and the bowels were regular. On examining the leg it was found to be considerably swollen, from the presence of adventitious deposits of a fluid and yielding character, particularly along the dorsum of the foot, and up the sides of the limb. Supposing that this unhealthy condition of the superficial structures of the leg materially contributed to increase, even if it did not produce, that inactivity of the circulation, &c. upon which the mischief in the toe would be seriously augmented, I immediately applied a flannel roller very tightly around the limb from the root of the toes up to the knee, first covering the great toe with a simple dressing, and enveloping the second in an additional piece of flannel. The patient passed a better night, and on the next day the bulkiness of the limb was diminished, whilst the inflammation, which before had been extending along the dorsum of the foot, was arrested. The patient was directed to take half a pint of decoction of bark during the day, and the same quantity of wine, together with a full supply of meat. The bandage was again tightly applied, and over it a second, for the double purpose of increasing the warmth of the limb and securing the full effects of compression. Under these measures there was

* ERRATA.—Page 107, column 1, line 51, insert the word "*by*" before the translator's name. Page 151, col. 1, line 1, substitute "*present*" for "*produce*." Ibid, line 14, substitute "*that light*" for "*sight*." Page 152, col. 1, line 40, insert "*time*" after "*that*." Page 157, col. 1, line 22, insert "*in*" before "*my*." Erase entirely all that part on pages 157 and 158 which follows the paragraph concluded by "*tasting of colocynth*."

a daily improvement, so that at the end of a week the leg was reduced to its proper size, the inflammation on the upper surface of the foot had disappeared, the second toe was restored to its natural temperature, and nearly to its natural colour, whilst the curative stages were proceeding most favourably and quickly in the great toe itself. A line of demarcation was forming around the toe between the dead and living parts immediately contiguous to the posterior boundary of the original slough, but extending rather farther back at the surface of the toe opposed to the second. At this time the nail becoming loose, and finding it in the way, I thought it would be better to hasten its removal, together with its attached cuticle, by applying a linseed poultice; and the bandage was omitted, from being unable to commence its application from the root of the toes, in consequence of the presence of the poultice. After the poultice had been employed for two days, there was a frightful return of the old symptoms. The inflammatory state of the dorsum of the foot reappeared, the second toe was again livid, the limb was increased in bulk. I immediately threw away the poultice, applied very tightly the two bandages, and was glad to find that on the next day there was an arrest, and on the day after a removal, of all the unfavourable symptoms. The bandaging was steadily pursued, the line of demarcation in the great toe progressively deepened, and the dead parts of the toe, embracing the first phalanx, and all the soft structures covering it, daily became looser and looser. From a natural, but perhaps unreasonable, anxiety to have this dead mass detached as quickly as possible, I once more poulticed the point of the great toe, taking care, however, to have the bandages previously adjusted, so as to leave uncovered only the part to which the poultice was to be applied; but even this appeared to do mischief, for on the next day the sound parts adjoining the dead, from coming in contact with the poultice, were spongy, and not so red and healthy. The poultice was not again employed, and in a day or two the loose and dead mass came away, by dividing some of the tendinous and ligamentous structures, which had not spontaneously separated. A little contrivance in managing the sound integuments converted it into a very tolerable

stump, and the part is fast healing. The second toe is entirely preserved, without even the loss of the nail.

The object which I have in relating this case is to point out the mischief arising from the use of the poultice in this kind of mortification of the toe, and to insist on the great benefit resulting from the employment of the bandage. It is true this is only one case, but an individual instance may sometimes possess as much force as a greater number, provided both plans of treatment under examination have been tried and tested in the same individual. It then resembles an experiment more than an observation; and whilst an accumulation of observations is required to establish a position, a single experiment is always satisfactory. For when we repeat an experiment, it is not so much for the purpose of obtaining a second, as to assure ourselves that we accurately performed, or that we were not mistaken in the results of the first. Suppose, for illustration, ten cases were recited, in which the bandage alone was employed, and ten different cases in which the poultice only was used, and suppose farther that the first all got well, and the last all died,—still it might be objected to any conclusion drawn from hence in favour of the roller, that perhaps the former cases were not so bad as the latter, those getting well in spite of the bandage, and these dying notwithstanding the poultice. But, select any individual case out of the twenty, and subject it to both remedies under comparison, and no room will be left for any such reply. Some authors, indeed, have lately so extolled what is called the “numerical method,” that they seem to think all that the medical philosopher has to do is to arrange in parallel columns the signs of the disease, and the effects of the remedy, and then cast up, and compare the results. But so long as the amazing dissimilarities of constitution, variations of disease, and difference of susceptibilities to remedial agents, shall continue to exist, the mere counting of cases will not give us that precise and exact information which alone ought to satisfy our inquiries.

That the poultice may be improper in the commencement of these attacks will perhaps be allowed, when it is considered how liable the inflammatory action may be to extend under its

weakening influence, but it will probably be still maintained that a line of separation having once taken place, this application is the best remedy we can employ. It seems to be supposed that the effects of the poultice, by softening the structures, will hasten the removal of the dead parts which are to be detached. But now the question is, on what does the check of the disease, and the separation of the slough, depend? Clearly, on the vigour with which the function of the blood-vessels and absorbents is sustained; consequently, that which contributes to weaken their energy must be injurious, and that which invigorates their strength must be beneficial; and I have elsewhere attempted to prove at some length that the poultice produces the former, and that the bandage accomplishes the latter effect.

I am, sir,

Your obedient servant,

J. C. SPENDER.

Bath, April 18, 1837.

ON SCURVY.

COMMUNICATED BY SIR JAMES M'GRIGOR,
BART., M.D.

Director-General of the Army Medical Department.

SIR,

I MENTIONED to you before, that above an hundred cases of scurvy (including relapses) occurred last year in the 75th regiment, while quartered in the new province of Queen Adelaide (*now again Cafferland*), and that I had instituted a particular inquiry into the causes, nature, and best mode of treating this complaint, which had been heretofore quite unusual in this colony, except as an occasional appearance amongst prisoners long under solitary confinement.

I have not yet received all the reports I called for from the medical officers who had charge of the scorbutic cases on the frontier, but I send you two letters which have been published in one of the Cape Town newspapers upon the subject, as I consider them of interest to the profession, from their pointing out the superiority of the antiphlogistic over the tonic plan of treatment, which latter is most commonly adopted in this disease.

I have lately had an opportunity of seeing a good many cases of it in the civil and military hospitals here, and from what I have observed, I think that physicians divested of prejudice, who carefully study its pathology in *the book of nature*, will discover an intimate connexion between it and disorders of the dyspeptic and melœnic classes; and that by treating it as a primary sub-inflammatory or congestive affection of the chylopoëtic organs, and rectifying gastric and hepatic derangement, a direct improvement in the state of the blood (which is universally allowed to be vitiated in scorbutus) will be the consequence; and various ameliorations in the nervous and vascular actions will speedily follow (if they do not even antecede) this salutary change in the blood.

In this, I think, consists the true *ratio medendi* of scurvy in all its different degrees and forms, whatever denominations nosologists may give to them—as purpura, purpura hæmorrhagica, morbus maculosus, scorbutus, porphyra nautica, &c. (which all denote the same disease)—due care being taken to individualize every case, *i. e.* to bring under consideration the existing stage and degree of violence of the disease—the constitution, temperament, and previous ailments of each individual patient, and the various influences to which he has been exposed, and by which he is surrounded.

I have the honour to be, sir,

Your obedient servant,

JNO. MURRAY, M.D.

Principal Medical Officer.

Cape of Good Hope,
Feb. 16, 1837.

Somerset Hospital, Feb. 7, 1837.

Sir,—I feel myself in a manner called upon or invited, in your journal, to give to the public some account of the treatment of the scorbutic cases which I have recently admitted into this hospital, and I shall not decline the invitation, as the subject seems to have excited considerable interest at this time, from the extraordinary occurrence of the disease in the 75th Regiment while quartered in the (late) Province of Queen Adelaide, and from its very unusual prevalence of late, not only among the whaling ships in these seas, but also in vessels with convicts and emigrants in their short voyage from England to this port.

I shall briefly state, that since the beginning of this year I have made a fair comparative trial of the tonic and antiphlogistic modes of treatment in sea scurvy, and that the superiority of the latter has been very marked.

To a certain number of the cases I allowed a full ration of fresh meat, with soup, tea, bread, vegetables, fruit (*i. e.* grapes and lemons), and beer; and gave them occasional doses of aperient medicines and quinine; and to another certain number, labouring under similar symptoms, I ordered low diet, without any animal food,—but with the same allowance of vegetables and fruit, and treated them medically by small bleedings (where the breathing was oppressed), mercurial alteratives, antimonials, and a full purgative dose of Epsom salts every morning.

The result was, that in the former the oppression of breathing did not subside, the appetite in the majority failed, their strength and activity improved very slowly, indeed, in two individuals rather diminished, their skin kept dry and rough, their gums continued spongy, the lividity, weakness, and rigidity of the limbs made scarcely any progress towards recovery, their despondency and unhealthiness of complexion continued, their sleep was unrefreshing,—in short, their convalescence was protracted and very imperfect; whilst those under the antiphlogistic plan (who, by the by, grumbled at first sadly at their getting low diet, as the others had full), recovered in a very rapid and satisfactory manner. Their appetite and strength improved daily, their breathing speedily became free, their countenance clear and lively, their pulse, urine, and alvine secretions natural, and, I may say, most of them were fit to be discharged to their duty before those on the tonic plan were able to leave their beds. These patients were carefully watched by some of my medical friends, known for their independence of thought and talent for observation, who all perfectly agreed with me as to the superiority of the antiphlogistic treatment.

I should mention, that it was Dr. Murray's observing to me some time ago, the advantage of the combined antiphlogistic and saline mode of treatment now adopted at the Military Hospital, in cases of scurvy arising from long confinement in the prison cells,

over the tonic plan formerly employed there, and also the observations on the subject in your paper, which first roused my attention, and induced me to make the comparative trial of the two practices.

I shall not enter into a detail of the cases, as I think this would be unsuitable for your paper, neither shall I enter into any public controversy with those who still advocate the tonic plan of treatment in diseases of this nature, as some other motive than the development of truth generally actuates public disputants; but I shall be happy to communicate with my professional brethren on the subject privately, or to show them the patients in hospital.—I am, sir, &c.

SAM. BAILEY, Surgeon, R.N.,
Superintending Somerset Hospital.

P.S. I should have mentioned that all scorbutic cases feel better for the first day or two after admission into hospital, upon whatever treatment they are put, simply from the comfort and change of air.

—
Military Hospital,
Feb. 11, 1837.

Sir,—Seeing that you have lately furnished us with some interesting observations relative to scorbutus, under the head of "Medical Department," and as there is no regular professional publication in the colony, I deem it right to contribute my modicum of information to the public upon this subject, in the way Mr. Bailey has done, through the medium of your newspaper.

I have to state, that within these last three months I have admitted several very well marked cases of scurvy into my regimental hospital from the garrison cells, all of which I have treated, at the recommendation of Dr. Murray, the principal medical officer, upon the strict antiphlogistic plan, chiefly by saline and mercurial purgatives, low vegetable diet, ripe fruits, tepid bathing, ablution of the limbs with vinegar, and gentle exercise in the open air; and I am happy to be able to report, that the practice has been attended with success far superior to that obtained from the tonic mode of treatment which was previously adopted here.

Formerly we considered the disease to depend *essentially* upon general debility of the system, forgetting that

debility is not a disease, but only a symptom of oppressed or diseased action; and we treated it accordingly by generous diet, porter, wine, preparations of bark and steel, mineral acids, astringents, opiates, stimulating embrocations, &c. &c.; and sometimes kept the patients confined to bed with their lower extremities elevated, upon the mechanical principle of favouring the languid circulation in them; but by this plan of cure, in general, they *did not do well*;—on the contrary, many of them lingered in hospital with oppressed breathing; swelling, stiffness, the peculiar bruised appearances and pains in the legs and thighs; spongy gums, and great debility; and their recovery was often tedious and unsatisfactory. We were afraid to use antiphlogistics, on account of the attending debility; or to give mercurials, on account of the spongy and bleeding state of the gums; but since the low diet and evacuant system has been introduced, the progress of all my cases to convalescence, and to perfect recovery, has been rapid, uninterrupted, and most satisfactory.

I have to add, that the disease which is sometimes produced by long-continued solitary confinement in the garrison cells here, although these be dry and well ventilated, and the prisoners' diet good, is precisely of the same nature as that exhibited in the men admitted into the civil hospital from the whaling ships; and that I find, by the reports of the medical officers on the frontier, that the scorbutic disease existing in the 75th regiment has exactly the same character.

We used to enter such cases in our returns under the head of purpura, or purpura hæmorrhagica, according to the less or more advanced stage of the disease, or the degree of violence of the symptoms; indeed, we were not quite so well aware before of the identity of their nature with porphyra nautica (sea scurvy), but of this we are now fully convinced; and I have no doubt that the investigation which has been instituted into this subject by the principal medical officer, will throw new light upon the causes, pathology, and treatment of this class of disorders.

I am, &c.

DANL. ARMSTRONG,
Assist. Surg. in Medical Charge,
98th Regt.

ON LYTTA IN DIABETES.

To the Editor of the Medical Gazette.

SIR,

CONSIDERING that the following case of diabetes bears some analogy to one which Mr. Snowden, of Hull, relates in your valuable journal for the 22d of April last, I hasten to send it with all its imperfections. Though ultimately unsuccessful, it serves to prove that stimulants, scientifically given, have great power in controlling, and for some time in checking, this fatal disease.

Few diseases within the limits of nosology have claimed to themselves such various and opposite methods of treatment as diabetes, and no one course of remedies hitherto used is of certain efficacy in this disease; from this unsettled state of practice, no regular system of remedies has been commonly followed in this, as is generally the case in other affections. Pathology, the grand indicator of practical medicine, has tended rather to mislead than direct in this disease; and from this circumstance the various theories advanced have each gained their separate partisans. Mr. Snowden gives a concise and faithful view of the usual appearances in the vascularity of the kidneys, but entirely leaves out one very important appearance—which is, that the splanchnic nerves are commonly enlarged and altered in appearance; which, in my belief, explains in a great measure the altered structures, secretions, and excretions.

Heerz and Wenner were advocates of the tincture lyttæ, which has proved successful in two cases treated by my senior brothers, and I am led to believe would have done so in the following, had it not been brought on by dissipation and necessary privations. On the other hand, Brisbanes and Bush deprecated the use of the lytta. It appears conclusive in the action of stimulants, as lytta, &c., that if the nerves whose functions are deranged be carrying on a diminished function, and if by stimulating these nerves by substances directly or indirectly applied, we can cause an increased function, the previously atonic state must be removed; consequently, by keeping up the stimulus the cure must be complete, provided diabetes, in its incipient state, depend upon an

atonic action in the nerves supplying the kidneys: but it is a popular belief that diabetes is the effect of other morbid actions, and that it only appears as a consequence of some other organ than the kidneys. This maxim, no doubt, will hold good in the majority of cases, when the diseased action is far advanced; and in those instances the present line of treatment would be an uncertain alternative. As far as regards the following case, auscultation and percussion detected no morbid derangement except in the liver, nor do I think the above axiom is ever generally applicable, provided the disease be taken in its incipient state, or the person not advanced in years; but where the system is quite exhausted, from the excessive drainings from the kidneys, it appears that whatever organ be predisposed to disease, must be then the seat of morbid action. Others, and amongst whom are contained a very distinguished class of medical men, say that diabetes arises from a morbid condition of the blood, and that, without changing the condition of this fluid, the disease cannot be remedied. No doubt the blood, as well as the various secretions therefrom, are changed both in quantity and quality; yet this only explains a consequence, and not a cause, of disease, and thus leaves us in a worse plight than its predecessors. The probability is that the fluids are changed, from deranged functions of the nerves of the ganglionic system; and it appears not at all improbable that some change first takes place in the splanchnic nerves, which, by affecting their functions, changes the quantity and quality of urine secreted in the kidneys; secondly, that the assimilative and excretory offices suffer; and thirdly, that other viscera suffer in proportion to their predisposition. I admit, however, that many objections might be urged against this theory, on account of our imperfect knowledge of nervous action, and consequently of nervous disease.

I. K., æt. 25, a stone-mason, previously to his present illness a strong and athletic man, suffered from loss of appetite, imperfect digestion, and occasional acid eructations, for twelve months prior to his observing an increased flow of urine; at the expiration of which period he complained of numbness of the loins, and tenderness on pressure, which

continued for three weeks, producing an incapacity of lifting large weights without experiencing severe lumbar pains for some time afterwards. In the course of a few weeks after these ailments had come on, he observed an increased flow of urine and a preternatural dryness of the skin, which was shortly succeeded by such debility and lethargy as rendered him incapable of following his employment. In this precarious state he continued till October, when he gained admission into the Manchester Royal Infirmary, and was placed under the care of Dr. Lyon, who very properly at that time ordered him to be cupped and leeched over the loins, &c. He stayed in the Infirmary one month without any improvement, and at his own wish was discharged. On his return home, he placed himself under his family surgeon, who tried ineffectually different plans of treatment; and on the 21st December, as a last and dubious resource, applied to me, at which time he was much emaciated, the integuments possessing a loose doughy feel, an unnatural dry burning to the touch, and exhaling the odour of sweating hay on the slightest exertion. His tongue was of a vermillion hue, and covered with a tenacious saliva; thirst very urgent and unceasing, with loss of appetite; pulse 96, quick, and soft. He complained of no pain or tenderness, and discharged eight quarts of urine daily, of a saccharine taste and violet odour, destitute of albumen or excess of urea. The chest, on percussion and auscultation, was perfectly healthy; the liver slightly enlarged. I placed him principally on animal diet, and, as a beverage, barley water or linseed tea, with the following mixture:—

Tr. Lyttæ, 3ij. Acet. Morphicæ, gr. j.
Mist. Camph. ʒviij. Capiat, ʒj.
ter die.

On the 23d of December strangury was produced, with a perceptible diminution of urinary excretion.

24th.—Strangury ceased.

It would be useless to enter minutely into daily accounts; suffice it to say his symptoms gradually improved, and on the 10th February, 1835, his tongue was moist and red, skin of the natural heat, and bedewed freely with perspiration, thirst less urgent, and appetite good. Bowels regular; seven pints of limpid urine daily, free from albumen, saccharine taste, &c. or violet odour.

In weight he had increased two pounds in the course of a fortnight. Supposing, as he now did, that diabetes was no longer an enemy to be feared, he disobeyed my orders, indulged in excesses, &c., and discontinued medicines: which indiscretion had produced, on the 18th February, the same train of symptoms as before, with the addition of acid eructation. In conjunction with the former mixture, I prescribed sod. carb. with suitable dietetic restrictions. Strangury was not in this instance produced, although there was a slight scalding in voiding the water. The acidity ceased, his appetite and strength increased, and towards the end of April he gained one pound and a half in a fortnight, and was enabled to resume his wonted arduous employment, with little inconvenience in strength or accession of his former symptoms: but, however flattering this improvement might seem, his former companions led him into wonted habits of imprudence, which brought on the old complaint, with general dropsy; this relapse, despite the remedies that were used, hurried him to a premature grave, on the 22d August, 1836. A post-mortem examination was not allowed.

I do not presume to assert, Mr. Editor, that stimulants, as lytta, &c. would be applicable in all stages of diabetes; nor do I consider that any one remedy would be so: but where the case seems of an atonic character, and free from much organic disease, as in the case before you, I dare venture to affirm that lytta, judiciously combined, will be efficacious; and should this remedy, through the medium of your independent journal, meet a full and perfect trial in places where this disease more commonly occurs than in my practice, and the time, manner, and indications most suited for its use, be better pointed out by persons more competent than myself to do so, and thus prove the means of relieving a few out of the many sufferers, it would fully answer the object of my intruding upon the pages of your journal.—I am, sir,

Your obedient servant,

JESSE LEACH, M.R.C.S. L.A.L.

And late Clinical Assistant to the
Westminster Hospital, London.

Heywood, Lancashire,
May 2, 1837.

ANALYSES AND NOTICES OF BOOKS.

“ L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

Consultations médico-légales et Expériences relative à l'Asphyxie par le Charbon. Par M. ALPH. DEVERGIE. *Annales d'Hygiène publique.* Jan. 1837. [Medico-legal Questions and Experiments relating to Asphyxia by the Fumes of Burning Charcoal.]

THE memoir from which the following extracts are made illustrates the importance of the science of medical jurisprudence, and shows how necessary it is for the ends of justice that the medico-legal authorities should avail themselves of all the aids of modern science.

A man, named Amouroux, was suspected of having caused the death of his wife, who was found dead in the rooms which they had occupied. His own statement was, that they both had agreed to put a period to their lives by inhaling the fumes of charcoal. With this view, after both had dined, at 6, P.M. (on soup, with carrots and leeks, and ray-fish, with potatoes, bread, &c., of which he said his wife partook largely), he lighted a charcoal stove, so placed between him and his wife in the room, that both should respire the fumes which it produced. His wife, he said, soon fell asleep; for between half-past 7 and a quarter to 8 he observed that she had a rattle in her breathing. At about half-past 11 he lifted his wife's arm; it fell powerless, and he perceived she was just dead, for the limb was still warm. He had experienced no effect from the fumes. At midnight he renewed the charcoal, and, he said, continued to breathe the mephitic vapour the whole night, but without effect. The next morning he bought more charcoal, and went on, according to his own account, exposing himself to the fumes of the burning charcoal *during a period of five days and five nights, in the room where the corpse of his wife lay, and took no nourishment during the whole of that time*, but merely quenched his thirst with water! He further stated, that the whole quantity of fuel consumed during this period, was five bushels of charcoal, and a basket of cinders.

The chief *facts* of the case were these:—The body of the woman Amouroux was found in her ordinary clothes, lying on the back, with the head raised and leaning on the foot of a bed. Under the head was placed a pillow, soaked with a sanious bloody liquid, which proceeded from the mouth. The whole body was in an advanced stage of putrid decomposition, the epidermis peeling off on a slight touch, the face and arms being much swollen with gas, and, with the other parts, of a greenish livid colour. On opening the body nothing remarkable was found, beyond the engorgements of putrifying blood in the most dependent parts, and other effects of advanced decomposition. The stomach was nearly empty, containing only some pultaceous remains of a reddish fibrous meat, probably ham; but neither in it nor in the intestines were there any traces of carrots, or other of the articles said to have been eaten abundantly five hours before death. There was no trace of any poison. The bed-room in which the body was found was seven feet and a half high, fifteen feet long, and ten feet and a half broad, with two windows closely bolted, and further secured by list. The fire-place was closed by a well-adjusted chimney-board. A stove stood in the middle of the room, with its iron tube communicating with the chimney at about the level of the ceiling. There was only one door, which led into a small anti-chamber, which again communicated by a door with a little kitchen, and by another with a narrow ill-ventilated staircase.

The following questions were proposed to MM. West, Marye, and Ollivier d'Angers.

1. Is the character of the apartment occupied by the couple Amouroux consistent with the statement that the deceased perished by the fumes of charcoal?

Answer.—No doubt can be entertained on this point, for persons have been often asphyxiated by burning charcoal in rooms much larger, and less closed; as, for instance, where braziers, or chafing-dishes, of burning charcoal or coke have been left in rooms, even when the doors have been frequently opened; and this fact can be readily understood, when it is recollect-

ed that air containing one-ninth of its volume of carbonic acid gas is quite vitiated enough to cause asphyxia.

2. Is it possible that, under the same circumstances, the wife should die asphyxiated, and the husband experience no effects from the deleterious gas?

Answer.—The vapour of burning charcoal is so deleterious to all animals, that it is capable of causing death by even being absorbed through the skin only; and it is quite impossible that a person breathing an atmosphere which had proved destructive to one life, and further vitiated by the burning five bushels of charcoal within five days, in a small close apartment, could escape these effects.

The following questions were then proposed to M. Alph. Devergie:—

3. Is the state of complete decomposition in which the body of the woman was found, four days and a half after her death, compatible or not with the supposition that this death was caused by asphyxia with fumes of charcoal?

Answer.—Science has recorded no means of directly answering this question. Nysten found that the stiffening of the limbs, which in ordinary cases lasts only twenty-four to thirty hours after death, continued in one asphyxiated person as long as seven days. Putrefaction generally destroys this stiffness: hence it is probable that asphyxiated bodies are less than others disposed to decomposition.

M. Devergie soon had an opportunity of verifying this inference on the bodies of persons asphyxiated by charcoal-fume, and brought to the Morgue. Although exposed here to the variations of atmospheric temperature and moisture, during the months of April and May, these bodies began to change only about the eighth or tenth day; and after thirty or forty days had elapsed, the discoloration was only partial, of a pale green, unaccompanied by the emphysematous swellings and softening of ordinary putrefaction, but presenting rather a desiccated and unusually perfect state of the tissues. Asphyxia from carbonic acid, then, appears to retard rather than hasten the putrefaction after death, and this inference is opposed to the idea that the woman Amouroux, whose body was found quite putrid within five days

after her death (and this in the month of February), had died from this cause.

4. Would not there be, in four days and a half after death, and notwithstanding the putrefaction, some trace of that pink coloration of the skin which is one of the chief characters of asphyxia, if that were the cause of death?

Answer.—M. D. replies, that in the case of an asphyxiated person brought to the Morgue, the pink colour not only continued, but increased in intensity and extent, until the thirtieth day after death, when it had become deep red; and not till afterwards did it change to green. The absence of this tinge in the deceased would, therefore, be extraordinary, if she really died asphyxiated; for M. D. has never, during eight years of frequent opportunity, seen the body of a person asphyxiated by charcoal in which this sign was absent; and as far as they go, authors on the subject give the same account.

5. Do females resist the asphyxiating influence of charcoal fumes longer than men?

Answer.—As far as facts go they are in favour of this view; but the cases are too few to be conclusive. In nineteen cases in which a male and a female asphyxiated themselves together, three individuals were restored to life, and these were all females. Out of seventy-three women suffocated by charcoal fumes, eighteen were recovered: out of eighty-three men, nineteen were restored,—also a smaller proportion.

6. Is the asphyxia by charcoal more readily effected by a person lying on the floor of the apartment?

Answer.—Although carbonic acid gas is one and a half times heavier than air, yet the strong tendency to mix, which Dalton has shewn to exist in gases of very different weights, would prevent any great accumulation of this gas at the bottom of a room; and the rarefaction of the carbonic acid gas by the heat of its production would destroy even this difference of weight, and insure its diffusion throughout the whole room, or cause it rather to ascend than to descend. It does not appear likely, then, that lying on or near the floor would increase the chance of being asphyxiated by burning charcoal.

7. What quantity of charcoal would

be required to asphyxiate persons of the strength and age of the couple Amoureux, in such an apartment as that which they occupied.

Answer.—The accounts of numerous suicides of this kind generally shew that two or three little stoves are lighted at the same time; but the quantity of charcoal used would rarely exceed a bushel. In one case, it appears that a man found four sous worth, or a quarter of a bushel, sufficient in a very small room. The rooms occupied by the couple Amoureux contained 1173 cubic feet of air. According to the experiments of Seguin, the addition of one-fifth of this bulk, or 232 cubic feet of carbonic acid gas, would render this air asphyxiating; and four pounds of charcoal would yield that quantity. But the deleterious effect of burning charcoal is not only from the addition of carbonic acid, but also from the removal from the air of the oxygen with which it is formed. The removal of half its oxygen makes air incapable of supporting the life of warm-blooded animals; and we shall not be far from correct, if we calculate that two pounds of charcoal would be sufficient to render suffocating the air in the room in question.

8. What quantity of ashes will a given quantity of charcoal furnish?

Answer.—This will vary so much according to the nature of the wood from which the charcoal is derived, that it can only be stated approximatively—that five bushels of charcoal should leave about half a bushel of ashes.

The accused was found guilty, and sentenced to hard labour for life. The real cause of death could not be determined by the data of the case; but these so completely contradicted the statements of the accused, that they became circumstantial evidence against him. Whatever caused the death, the decomposition after it seems to have been hastened by a high temperature.

A Manual of Practical Midwifery, including the Diseases of Women and Children, in accordance with Burns, Denman, Gooch, Dewees, Blundell, Davis, Ryan, &c. By FORBES WINSLOW, M.R.C.S.L., &c.

THIS volume is $2\frac{3}{4}$ inches long, by $1\frac{1}{2}$ broad, and in thickness measures $\frac{3}{8}$ of

an inch. We presume from the bulk being made so diminutive, that Lilliputian dimensions are regarded as a recommendation in modern bibliography; and therefore here we have employed rule and compass in making our calculations. More is crammed into it than might have been expected; and we may safely say few octavo volumes contain a larger quantity of useful matter.

MEDICAL GAZETTE.

Saturday, May 13, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

COMPETITION AMONG MEDICAL PRACTITIONERS.

WE recollect that when the Reform Bill was in agitation, it was expected by no small portion of his Majesty's subjects that this important measure was to be a panacea, or all-heal; that it was to make work plenty, wages high, and bread low; and grievous was the disappointment when no one of these happy effects followed. In like manner we fear that the question of medical reform, as it is termed, has been looked upon by many of our profession, not in its true light as a question of names and places, of the cheapening of degrees, and of admission to lectures and libraries, but as a genuine medical cornucopia overflowing with patients, and fees, and all the comforts which they bring in their train. Our expectations from this source are, we confess, very small; for believing, as we firmly do, that the chief evil in our profession is excessive competition, we scarcely see what the legislature can do for us, except by a large parliamentary grant for the encouragement of emigration on the most extensive scale.

Of the extreme excess of medical practitioners, especially in large towns,

there can be no doubt; and while the supernumerary members of each division of the profession look with a jealous eye upon the other branches, whom they consider as encroaching upon their own domain, and to whose wayward conduct they partly attribute their own hard lot, the philosophic spectator is obliged to confess that the general *malaise* depends on something more than individual disqualifications, and that it arises, like an epidemic, from some irresistible external influence, though each sufferer is ready to attribute it to some slight cause within the sphere of his own observation.

What is the state of the three chief divisions of our profession?

The condition of the great bulk of physicians has become synonymous with genteel penury; capital is too often made to play the part of income, and we fear that even a carriage is sometimes kept by an ascetic living on cold meat and small-beer. The young candidate for fame, however, is not altogether disappointed in obtaining practice; he often gets a very large one—only without fees! We do not recollect to have seen it commented on any where, that while the rewards paid to all other classes of society have increased with the growing wealth of the nation, the physician's fee has remained stationary. A fee, three centuries ago, would have paid the half-year's rent of a large house*, and would have furnished Radcliffe with a dozen of wine at a tavern to boot—but now.....

Lectures were once a profitable resource to the industrious beginner, but now that a school has sprung up in every by-street, they must be considered, in many instances, only a creditable advertisement published at a considerable expense.

* The controller of Edward the Sixth's household paid only forty shillings a year for his house in Channel Row.

The condition of pure surgeons, at least of young ones (and in this class any man must be reckoned young under forty), has been so graphically set forth by a contemporary, that we cannot resist the temptation of quoting his description:—

“From the cry that has been got up against the ‘pures,’ a person who knew nothing of the matter would suppose that they were the depositaries of the wealth and the success of the profession. There never was more arrant stuff. The majority of the ‘pures’ are well known not to make ‘salt to their porridge.’ A man who should now go into practice as a ‘pure,’ must either have very superior talents, a very strong introduction, or some private fortune. Ninety-nine out of the hundred of young ‘pures’ make nothing at all by their practice—if that term should be facetiously applied to what they do. If you wish to see a young ‘pure,’ you do not look at the carriages, ‘cabs,’ or tilburies that are passing—you do not dream of seeing him emerge from a door whose knocker is tied up, but you go to the board-room of a hospital, or to the operating theatre, or dissecting-room. There they are in shoals, neatly dressed, gentlemanly, quiet young men, with a strong expression of expectation in their countenance, and a consciousness of merit not yet drawn out. They chat, stroll round the wards, and warm their nether ends at the board-room fire until two or three o’clock, when one of them suddenly recollecting a very urgent appointment, the others as suddenly remember the same thing, and all hurry—they alone know where*.”

The third division contains the general practitioners. In this class not only are the gains more immediate, but an entire failure in obtaining them is less frequent. Yet how frequently they are inadequate even for the humblest wants, may be gathered from those painful records, the London Gazette, the registers of the Insolvent Debtors’ Court, and the subscription-lists ever and anon handed round for the family of some

deceased practitioner. Indeed, these melancholy proofs of professional failure (far too frequent to allow us to attribute them to individual mismanagement) are not confined to this particular division, but belong alike to all.

If a reason be asked for these unhappy facts, one answer will be given by every impartial person, and that in one word—COMPETITION.

If we required any additional proof of this lamentable state of things, we might find it in the contracts for attendance on the poor in country parishes. A practitioner engages to attend all the sick poor in a population of four or five thousand persons, scattered over a dozen parishes, for which he is liberally rewarded with 70*l.* or 80*l.* a year. If the established practitioner hesitates for a moment to see patients at the rate of a farthing a visit, and a mite per powder, the Commissioners and their accomplices threaten to bring down some young hand, who will be satisfied with a more “reasonable remuneration.” Nor is there any cause to suppose them incapable of perpetrating their threats. As drowning men will catch at straws, so a friendless lad, who has just passed his examination, will be tempted to take the union at 40*l.* a year; for according to the common argument in such cases, that half a loaf is better than no bread, so 40*l.* a year are better than nothing.

The instance that we have just supposed is by no means an extreme one. In one of the publications of the Society for the Diffusion of Useful Knowledge, there is an essay recommending the poor to form self-supporting dispensaries, in which the following passage occurs:—

“In every large provincial town there are skilful and experienced medical practitioners, whose services might be secured for a large number of individuals by the payment of a very small annual sum. No body of men are more

* Med.-Chir. Rev. April 1837; p. 570.

emulous, or are animated by a stronger desire to attain eminence in their profession; and this spirit would be a guarantee to their patients that all their skill and sympathies were enlisted in their service. Now if a hundred working men, with families, or with the prospect of families, were each to subscribe a small amount, they might secure medical relief in all needful cases. Allowing five members to each family, there would be 500 individuals to whom the medical man appointed for the purpose might be called upon to extend his professional aid. The number of cases of sickness would not exceed one-half, or 250, at an average duration of five days each. The proportion of births to population being 1 in 34, there would occur during the year fourteen or fifteen midwifery cases. It is difficult to fix upon the sum which should entitle a man to the benefits of the dispensary. It would be best determined by the competition of several medical men, to whom the appointment at a fair, but not an extremely low, rate might be offered. We understand that in some of the manufactories in Lancashire, surgical assistance is contracted for by the proprietors. At one factory, all the assistance that is yearly required for 1,173 men is contracted for at so low a rate as six guineas. At another factory, a surgeon undertakes to attend to all the ailments of the workmen, on payment of one halfpenny each weekly; but a small number could not expect to be attended at so low a rate*."

The Lancashire surgeon in the quotation, with his annual revenue of 6*l.* 6*s.* for doctoring 1,173 men, has certainly no sinecure of it, as his little nest will furnish him with about 500 cases a-year; but what is this to the struggles for a dispensary in London, with no handsome Lancashire salary attached to it? The bowing, beseeching, canvassing, advertising, feasting committees, and scraping together testimonials, might seem enough; but sometimes the candidates, spurred on by their vaulting ambition, manufacture fictitious votes, pay down guineas torn from their own slender

capitals, in the names of Styles, Nokes, Jenkins, &c., and thus attain the long-desired haven, where they gain—nothing.

Now, as the man who does these strange things is often of sound understanding in other matters—

“In all things else a man of sober life,
Fond of his friends, and civil to his wife”—

we are driven to the conclusion, that he is forced into his temporary aberration by the advice of his friends or the example of his rivals,—in short, by some pressure from without.

Can any number of Warburtons, or Warburton's bills, remedy this state of things? We fear not. But at any rate let us try to mitigate the evil, which we cannot entirely stem; let us not make the entrance into the profession still more fatally easy. We know nothing like the condition to which we are approaching, except that of our Universities some centuries since, when Hume tells us that scholars were forbidden to beg without a license from the Vice-Chancellor.

But why, it may naturally be inquired, should physic be more over-run with competitors than the church and the law.

In the first place, the Bishops very rarely ordain any one (except Fellows of Colleges) without a *title*; i. e. they will not admit a candidate into the church unless he gives proof positive that he is about to have immediate employment in it. Now supposing that in like manner the Worshipful Society were to refuse to examine any pupil until he could show that he was the apothecary elect of half a dozen families, we suspect it would tend mightily to lessen the surplus population practising our art. In the next place, in the church an English University degree is required; and although in the poorer dioceses the Bishops put up with what are called *literate*s, this is the exception, and not the rule. Moreover, the Durham and Lampeter Colleges have probably ere

* The Working Man's Year-book, 1835; pages 121, 122.

this raised the standard of attainment among those who have not graduated at the Universities.

Barristers are still better protected from competition by the long course of general as well as professional study required, and by the late period at which they begin to make an income. A clergyman *may* hold a comfortable living at four-and-twenty; a general practitioner *may* maintain himself at the same age; but at four-and-twenty the barrister that is to be is still a law student, and he must be a man of remarkable talents if he makes as much as the rent of his chambers before he is thirty.

The physician and the pure surgeon might seem at first sight to possess this advantage of *survival* (if we may so term it) in common with the barrister; and it might be thought that if they could keep their heads above water till thirty or thirty-five, they would have the advantage of belonging to the select set that had weathered the storm. The main difference in the two cases is, that the barrister is not exposed to competition with the attorney, while the physician and the pure surgeon have to stand a common rivalry with the general practitioner.

Another reason that saves the church and the law from that eager competition which is the bane of physic is, that as they are the more favourite professions with the gentry and the richer traders, more capital is brought into them, and that desperate feeling which, as we have seen above, makes an unfortunate man clutch a salary of six guineas with a spasmodic grasp, is less likely to be found in them.

There is one kind of competition, indeed, from which, happily, no profession is free: it is the rivalry of intellect—the irresistible struggle of talent determined to advance. At the bar, and in the church, as well as in our

own profession, some happy spirits have made their way, in spite of every obstacle; but we are now rather discussing the rules laid down for the mass, than for the sons of genius who constitute these bright exceptions.

The plain and practical conclusion to which we must come is, that the late regulations of our several medical corporations enforcing a more lengthened course of education, are beneficial to all parties—to the public, by ensuring a deeper study of the most difficult of all arts—and to those already in the profession, as well as those about to enter it, by diminishing in some slight degree that hungry rivalry which threatens to reduce the remuneration of the practitioner in physic to the wages of an artisan.

UNIVERSITY OF LONDON.

THE University has now been divided into “Faculties.” The Faculty of Medicine consists of twenty professional and five lay members of the University. We understand that they have appointed Dr. Roget to be their chairman,—a selection which appears to be a very judicious one.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, May 9, 1837.

DR. BRIGHT, THE PRESIDENT, IN THE CHAIR.

Analysis of Urine before and after the use of Mercury. By Dr. BOSTOCK.

A SHORT communication was read from the pen of Dr. Bostock, on the subject of the analysis of three specimens of urine from a patient under the care of Mr. Earle, with rheumatism, who was treated with mercury. The author describes the first portion, examined before the commencement of the mercurial course, as the most aqueous he had ever seen; its solid contents being only 1.33 per cent., and the earthy salts being scarcely perceptible. After thirteen days' use of mercury, the solid contents were increased to nearly 2 per cent., of which there was about the

natural proportion of the earthy phosphates. After a further interval of eleven days, the solid contents were increased to 4 per cent., and the phosphoric salts were greatly increased in quantity. In a specimen of the blood of the same patient, which the author received with the first specimen of urine, he found, on analysis, a quantity of urea.

Remarks on Malignant Diseases of the Skin of the Face. By CÆSAR HAWKINS, Surgeon to St. George's Hospital.

The object of the author's communication was to describe a peculiar form of malignant disease of the face, which does not appear to him to have received any distinct notice by surgical writers, although its character is so well marked as to require a separate consideration. The term *malignant disease*, however, having been employed in a very vague and ill-defined manner, the author commences by stating that he restricts the term *malignant* to such diseases as essentially possess a new structure, capable of exerting a poisonous influence in one or more of these several degrees:—1st, Upon the neighbouring textures, which are converted into a substance exactly similar, or at least analogous, to that of the new formation; 2dly, upon the absorbent system, so that the next glands become enlarged into a tumor like that originally deposited; or, 3dly, upon the whole constitution, so that the poisonous secretions of the newly-formed part gain access to the circulating fluids, and tubercles of various forms, but of the same or analogous character, become developed in some distant organs or textures, which have no direct communication, except through the blood, with the parts in which the new structure was first formed.

By this restriction of the term the author excludes from among the malignant diseases of the face—1st, the irritable and intractable ulcers described by Mr. Earle in the twelfth volume of the Transactions of the Society; 2dly, the various forms of scrofulous lupus, which attack the nose, eyelids, and cheeks; 3dly, the several varieties of tubercular sebaceous disease, tubercular lupus, *noli me tangere*, &c. which occur in the same parts; and, 4thly, hypertrophy of the nose, described by Mr. Hey, Civalier, and others,—none of these containing any new structures to entitle them to be included in his definition.

The author then proceeds to describe three distinct forms of malignant disease, which are illustrated by several drawings, casts, and preparations, presented to the examination of the members of the Society.

With the *common cancer of the face*, as it

shews itself in the lower lip, most surgeons are familiar. When removed by the knife in its early stage, this disease does not return. If permitted, however, to advance until the contiguous glands become affected, the patient usually falls a victim to the irritation of the disease. In a few of these cases the poison is absorbed, contaminating the whole system; in which case tubercles are found in the liver and other viscera.

The second form of disease, to which the author applies the name of *cancerous ulcer*, or *phagedenic ulcer*, occurs in the face of old persons, is usually stationary for a long time, until excited to ulceration by some accidental violence, and differs from the ulcer of ordinary cancer by the skin around not being thickened or inflamed, by the almost entire absence of pain, by its slow progress, and other characters. This disease the author considers to be malignant only in the lowest degree, and advises its removal by the knife; or, when the new structure is not very deep, by the chloride of zinc.

To the third form of disease the author applies the name of *cancerous tumor*, or *fungous cancer of the face* of old persons,—a disease which he believes to be hitherto undescribed. This disease presents the appearance at first of a small rounded tumor in the skin, generally in the cheek, over the molar bone, or in the ala nasi. It is a little whiter than the surrounding skin, from the outer part of the cutis being thinned by the growth of the tumor. It is easily distinguishable from ordinary cancer by many characters of peculiarity, and is usually unattended with lancinating pain previously to ulceration. When it forms upon the ala nasi, it is readily distinguished from hypertrophy of that part by the absence of surrounding redness and thickening, by its defined cyst-like limits, and by the absence of enlarged sebaceous follicles. The author considers the disease to be intermediate in malignancy between the cancerous ulcer and the common ulcer; and that if sufficient care be taken to excise the whole, it may be removed with almost a certainty of success.

On a peculiar Symptom occurring in some cases of Enlarged Liver. By J. G. MALCOLMSON, Surgeon, Madras Establishment.

The object of the author in this paper is to describe a condition of disease in the liver which he had observed to be productive of a peculiar sound, as heard through the stethoscope. This sound was between a crepitous rattle and a bleating, audible to the patient, and even to the bystander, and accompanied by a vibration of the parietes of the chest, communicated to the hand applied to the part.

The author was at first unable to account for this symptom, but subsequent experience has enabled him to refer it to enlargement from abscess in the liver, or other abdominal tumor, compressing and forcing upwards a portion of the lung. In one instance the patient amused himself by producing and removing, by various changes of posture, what he (being a surgeon) had taken for an intimation of approaching death.

In a subsequent part of the paper the author lays much stress on the danger of opening abscesses in the liver before adhesion shall have taken place.

ROYAL INSTITUTION.

Friday, May 5, 1837.

Tin Mines of Cornwall.

THE lecture of this evening was one on Tin, by Dr. Boase, author of a very clear and well-reasoned work on Primary Geology. The tin mines of Cornwall, which are the most valuable ones of that metal hitherto discovered, have been wrought from the most remote times, and were certainly known in the earliest periods to the Phœnicians. This metal occurs in them in the forms of oxide of tin, and tin pyrites, an impure sulphuret;—but the latter is hardly ever employed. As to geological position, tin occurs in Cornwall in two situations: first, in stream beds; and secondly, in veins. The stream beds are deposits of alluvial matter, containing a large quantity of tin. Whether above or below the level of the sea, they are found covered by layers of vegetable matter, and of granitic or occasionally slaty debris. The stream bed almost always rests on the granite or slate rocks, and occupies low hollows. Dr. Boase accounts for their deposition, by supposing that a body of water, at some period, removed from the summits of the mountains their disintegrated surfaces (in which there was a certain quantity of tin derived from the metallic veins), and that, as the water subsided, the tin was deposited at lower levels, in the form of stream beds. As a general rule, the granitic rocks contain richer and more numerous veins than the slate. The tin, when obtained either from the stream beds or from the veins, is pounded and washed; and if it contains many impurities, such as the arsenical sulphurets, it is placed in the reverberatory furnace. After this it is smelted, and run into cakes. In commerce tin is met with in the states of grain tin, which is got exclusively from the stream beds; of common, and of granulated tin.

The lecturer explained at some length the manufacture of this ore, and some of its chemical properties, stating the best method of distinguishing the proto-salts from the per-salts. With the per-salts hydrosulphuric acid forms a golden yellow precipitate; while with the proto-salts it forms a dark brown. A solution of a salt of gold throws down a caseous powder with the proto-salts, which it does not with the per-salts.

Although too great a variety of subjects was introduced, still the lecture was one of very considerable interest.

CASE OF SPONTANEOUS PHLEBITIS.

A YOUNG soldier, aged 23, of good constitution, was affected without any cause which could be discovered, with a small swelling in the axilla, which was red, hot, and painful. Its size gradually increased; the heat, redness, and pain, progressively extended downwards till they reached the hand; and as they could easily be traced along the course of the veins, it was distinctly made out to be a case of phlebitis. There was considerable swelling, with an erysipelatous blush, and exquisite sensibility. The patient was treated with copious leeching, and is now recovering. This case is curious; first, because the phlebitis did not extend towards the heart as is usual, but downwards; secondly, phlebitis is commonly traumatic or puerperal, and seldom arises spontaneously or independently, as in this case; thirdly, phlebitis usually commences in the cutaneous capillaries in the form of erysipelas, while in this instance it began in a large vein.—*Gazette des Hôpitaux.*

ON THE FORMATION OF MICROSCOPIC CRYSTALS IN THE ALVINE EVACUATIONS

OF PERSONS LABOURING UNDER TYPHOID
FEVERS.

BY M. GLUGE.

PROFESSOR SCHÆNKLIN having examined the evacuations of persons labouring under typhus, discovered in them a number of microscopic crystals; and the results of his inquiries were published at Berlin in 1836. The crystals were diaphanous and brittle, soluble in the sulphuric, nitric, and hydrochloric acids. The crystals were composed of phosphate and sulphate

of lime, and of salts of soda; and belonged to the rhomboidal system. They were not found in the copious evacuations of gastric fevers, or of different kinds of diarrhoea; nor in the stools of persons in health, or convalescent from typhoid fevers. Müller adds, that from observation he also finds, that in certain morbid states there are frequently to be found a few scattered crystals, visible sometimes to the naked eye. M. Gluge has made further observations on this subject, and their results are as follows:—

The stercoraceous crystals exist in a healthy as well as in a morbid state. The fæces of persons in health, examined immediately after expulsion, present a number of very minute, but distinct, and sometimes perfectly transparent crystals. Their diameter is much less than in typhoid fever. To see them, a magnifying power of 250 diameters is required, *their length only varying de $\frac{3}{4}$ centième de millimètre*. They are grouped together in large numbers, and their form of crystallization is very various. It is premature to form any theory about these facts.

The matter contained in the lower end of the intestinal canal of a living frog, when submitted to the microscope, is found to be full of crystals, while that in the upper portion contains none; yet in twenty-four hours, or in less time, after its death, crystals are found through the whole extent of the digestive canal. The bile has probably a good deal to do with the formation of these crystals. After death that fluid usually contains crystals in great numbers; it also contains very regular filaments, which unite in great numbers, so as to form small bands, which are always found unaltered in the alvine dejections.—*Gazette Médicale*.

NEW EXPERIMENTS

ON

THE SENSE OF TASTE IN MAN.

MM. GUYOT and Admirault published, in the beginning of 1830, a series of experiments on the sense of taste in man, from which they drew the two following conclusions:—1. The lips, the inside of the cheeks, the roof of the palate, the larynx, the posterior fauces, the dorsal and the inferior surface of the tongue, have nothing to do with the perception of taste. 2. The sense of taste is exercised only by the posterior and deep part of the tongue—by its edges through their whole thickness, and over a surface of nearly one

line, by which they are continued into, and connected with, the dorsal surface—by its point, and, in fine, by a small part of the velum pendulum palati, situated near the centre of its anterior surface.

In their present memoir they have extended their observations, and arrived at the following conclusions:—1. The tasting surfaces do not perceive tastes in the same degree throughout their whole extent. Taste is most distinct at the base of the tongue: along the edges of this organ the sensibility goes on increasing, from the posterior fauces to the point of the tongue, where it is at its maximum. The sensibility of the velum pendulum palati is nearly the same as that of the middle part of the edges of the tongue. 2. The tasting surfaces do not perceive all savours indifferently. Some sapid bodies, such as oil, butter, milk, and especially articles of food, excite in the anterior part of the tongue merely a sensation of touch, while it is only in the back part that their characteristic savour is manifested. 3. Many substances do not yield the same savour in all the parts which possess the sense of taste. Some bodies, and especially salt, display the very remarkable fact, that the sensation produced by them in the anterior part of the tongue is very different from that produced in its posterior. Thus solid acetate of potash, which has a burning acid taste in the front, is bitter and nauseous in the back part of the mouth, the pungent acidity being gone. Sulphate of magnesia, slightly acid and saline in front, has an intensely bitter taste behind. Acetate of lead, pungent and styptic in front, tastes only like sugar behind. Alkalies, lime water, and solution of ammonia, do not vary in taste.

From these facts, and from some others, which relate to the mode of appreciating the quality and intensity of taste, MM. Guyot and Admirault conclude—1. That taste is a physical, and not a chemical, sense. That it judges of the nature of bodies, not of their density, temperature, or composition: in this respect it differs essentially from the sense of touch, which is exclusively meant to discover the physical properties of bodies. 2. That the sense of taste cannot be exercised by one single nerve, as the results require at least two. From numerous anatomical observations they have been induced to consider the glosso-pharyngeal nerve as that which presides over the perception of savours at the base of the tongue, and perhaps at the velum. They think that it can only perceive them at the back part of the mouth; and that it is the lingual nerve which possesses the power of per-

ceiving savours at the point of the tongue, and at its edges. According to this view it is the sensation of taste which, reacting on the glosso-pharyngeal, probably determines by other branches of the same nerve the act of deglutition or regurgitation.—*Gazette Médicale.*

ON THE DIFFERENT KINDS OF HYDROCELE,

AND THEIR TREATMENT.

BY M. VELPEAU.

[Concluded from page 136.]

Gangrene of the Scrotum—Hæmorrhage—Puncture of the Testicle, and other Accidents—Complicated Hydrocele—Mode of treating these described—Double Hydrocele—Scrotal Hernia—Congenital Hydrocele.

In speaking of the bad effects which occasionally result from various injections, M. Velpeau proceeds to mention gangrene of the scrotum. The canula is apt to slip out of the cavity of the tunica vaginalis, while the scrotum is contracting and emptying itself. This apparently slight accident often causes the most troublesome effects: there results from it inflammation, which almost always ends in gangrene. When the injection in this way reaches the scrotum, and is considerable in quantity, we must, without hesitation, scarify deeply, and at a great many points, the whole thickness of the scrotum, and even go a little beyond the limits of the infiltration. Topical astringents or resolvents before inflammation is set up, and antiphlogistic treatment with emollient cataplasms, if the urgency of the case demands them, must be immediately had recourse to. Gangrene of the scrotum may also arise, even though the injection has been actually carried into the cavity of the tunica vaginalis. This is a fact not mentioned by authors, but yet appears not to be rare. M. Velpeau and some of his friends have seen several instances of it.

Two other accidents may follow the operation for hydrocele—namely, hæmorrhage and puncture of the testicle. Hæmorrhage may arise from three causes. First, from wounding the arterial branches supplied to the scrotum by the external and internal pudic, and the epigastric arteries. Secondly, from puncture of the vessels of the testicle. Thirdly, from simple bleeding from the internal surface of the tunica vaginalis. The smallness of the vessels prevents the hæmorrhage in these cases from being dangerous. As to the reme-

dies to be employed, the bleeding surface should be freely opened, if the symptoms are serious. If they are so, the case becomes one of hæmatocele rather than of hydrocele.

Puncture of the testicle occurs when the situation of that gland, or of the spermatic cord, cannot be exactly known. It may also happen, although this case has not been remarked, when there is but a small quantity of fluid in the tunica vaginalis. The pain resulting from puncture, in some cases very acute, does not allow us to be mistaken when this has happened. The testicle sometimes is violently inflamed from puncture, and this may end in purulent suppuration; but it is usually less dangerous than we should suppose; and often no symptoms appear but those which follow the common injections. Another result sometimes following injection is the retention of a certain quantity of air in the tunica vaginalis: M. Velpeau has seen several instances of this, where there has been crepitation for fifteen days; but the cure has always proceeded regularly, without any interruption.

The accidents attending the vinous injection have induced M. Velpeau to try new modes of treatment, and acupuncture was had recourse to; but he thinks that it should (both with or without the employment of a thread) be entirely rejected. Compression by means of strips of diachylon plaster was then employed, but was not found to be successful. Iodine injections next suggested themselves; and a very high opinion is entertained of their efficiency. They need not be repeated here, as we have already given the results of M. Velpeau's experience in this mode of treatment (at page 90 of this volume.)

M. V. next considers *complicated hydrocele*. If both the tunicæ be involved, it is the rule only to operate on one at a time, lest too violent action ensue. But unless the hydroceles are very large, he thinks it safe to operate on both, using the iodine injection. It is said that both hydroceles have been sometimes cured by one operation, but this is very rare; and when a person undergoes both operations at once, the cure generally occupies more than half the time which the two separately require. When the liquid of the hydrocele is muddy, sanguineous, or milky, and is not too full of shreds of lymph, and there are no adhesions in the cyst, the iodine injection will be as successful as in simple cases. But if there are masses of fibrine, or of albumen, either free or adherent—if the liquid, instead of being serous, is of the consistence of cream or of chocolate—if the cyst be thick and hard, whether the contained matter be of a natural kind or

not, injections will be generally found insufficient. In these cases the practice of excision is usually followed. Though very painful, and often followed by considerable inflammation, and by much fever, it has been found effectual by M. Velpeau. Cicatrization often does not take place till the end of one or two months. For two years M. Velpeau has employed in its stead simple incisions and a seton. He makes with a straight bistoury a penetrating incision, by which three-fourths of the tumor ought to be traversed. The liquid within is effused. The finger is then carried into the cyst, and extracts any solid matter that may have been formed in it. If the cavity is small, suppuration is excited by keeping the wound open with a tent. If the cavity be large, he in the same manner makes an incision into the lower part of the sac, and passes a seton through the two wounds. This excites swelling and inflammation, which attain their maximum in four or five days, and terminate in about fifteen in the disappearance of the foreign body.

Four patients treated in this way were cured in from twenty to thirty days. In one of them the seton was not used; but five large incisions were made into the cyst instead of two. It ought to be remembered, that in this kind of hydrocele the testicle and its envelopes remain a good deal larger than the opposite one, after cure, whatever method be employed. Excision, then, is only necessary in cases where the liquid is in a hard, bony, or calcareous shell. If it be practised in other cases, a fourth or fifth part of the cyst only should be excised, and not almost the whole, as Boyer recommends.

In *double hydrocele* of the same side, unless there is a particular reason for not doing so, M. Velpeau recommends proceeding at once to the injection of the two cysts.

When the swelling of the testicle, and of the epididymis, is not very painful, all surgeons advise the disregarding it, and only attending to the hydrocele; but if there are shooting pains, and much alteration of structure in the tumor formed by these parts, Boyer disapproves of injection. M. Velpeau, however, has employed injection even when the parts were much altered in structure, with the effect not only of obliterating the cavity of the tunica vaginalis, but frequently of curing the accompanying affections. In all cases of hydrocele with enlargement of the testicle, where castration is thought of, injection of wine or tincture of iodine should be first tried.

Where there is a multiplicity of cysts,

and the tumor is like a sponge with large pores, the operation of incision is obviously preferable to all other methods. The scrotum and all its cells are to be freely divided with a convex bistoury. The parts are to be dressed with charpie to cause suppuration, and they then cicatrize and heal, as in the case of a large open abscess.

Varicocele does not require any change in the mode of operating, any more than the presence of a tumor, or of a lesion in the inguinal canal.

In hydrocele complicated with scrotal hernia it is different. In such a case, where the diagnosis is often difficult, the surgeon should never forget that by puncture he may wound the hernia before reaching the tunica vaginalis, when the intestine occupies the front part of the tumor, or that he may do so after reaching it, when the intestine is in its back part, and that if the vinous injection penetrate the intestine the most dangerous consequences may ensue. The first step, then, is to reduce the hernia: if, after this, pressure does not disperse the hydrocele, we may proceed to use the irritating injection, because we have then proof that the tumor does not communicate with the peritoneum.

Chronic affections of the surface of the scrotum, such as eczema and syphilitic eruptions, need not alter the common treatment,—not even incipient elephantiasis, if in such a case the swelling of the tunica vaginalis be worth attending to. If there be simple erysipelas, we should wait for its disappearance. Phlegmonous erysipelas must be first cured by incisions.

By congenital hydrocele we understand a case where the cavity of the tunica vaginalis has not yet separated from that of the peritoneum. It of course exists mostly in infants. As he thinks the anatomy of this affection has not been well understood, M. Velpeau explains it at some length. He says the gubernaculum testis is not, as is usually supposed, formed by a funnel-shaped prolongation of the subcutaneous fascia, but by the cremaster, and this muscle is exactly fitted to let down the testicle as far as the ring. It must be admitted, also, that the inguinal canal is at least as oblique before as after birth, and as it is in the adult; and that the two rings are in the foetus separated by a pretty long distance. However this may be, the testicle never leaves the abdomen unaccompanied by a prolongation of the peritoneum. It is in the funnel resulting from this prolongation that congenital hernia takes its rise. If, when the peritoneum is being depressed, the fluid

forms a tumor before or behind the cremaster, the hydrocele may descend alone into the scrotum, below the testicle, which is still retained or concealed in the inguinal canal. In other cases the testicle descends first, and the tumor is above; but usually the hydrocele bears the same relation to the testicle as in ordinary hydrocele. Though the serous fluid may sometimes come directly from the abdomen, yet it is oftener secreted by the tunic itself. The friction of the scrotum during birth, the irritation caused by its frequent contact with urine, and all the kinds of pressure to which it is exposed in the first stages of existence, explain the effusion better than the supposition of the peritoneum being diseased. Except that it occasionally originates in an affection of the testicle, the other causes of congenital are the same as those of common hernia. It is easily recognised by our being able by pressure to force the fluid out of its sac into the abdomen. It is also indicated by the age of the patient. The tension, too, is seldom so great as in ordinary hydrocele, diminishing when the patient lies down, and increasing when he gets up. The communication of the cyst with the peritoneum is in most cases so much contracted, as not to let the fluid disappear under pressure.

Congenital hydrocele is cured more easily than that of adults, by operation; but the operation appears in some respects to be more dangerous; for by it we run the risk of cramping the growth, or retarding the descent of the testicle, and of exposing the child to the chance of hernia. A spontaneous cure is often produced by increase of years; and simple compresses have been found useful. We need be in no hurry to have recourse to an operation, unless there are any indications especially demanding it. When we do operate, injection is the best mode of treatment. A prejudice against irritating injections has been felt by many surgeons, from the fear of inflammation of the peritoneum being excited; but in this fear M. Velpeau does not concur; and he thinks that the iodine injections, not requiring the distension of the sac, being easily absorbed, and causing but a very slight inflammation, removes all risk. The only precaution necessary is to compress the inguinal canal with the thumb during injection; after which the compression need not be continued*.—*La Presse Médicale*.

* Erratum, page 136, line 1, for intact, read entire.

MIDDLESEX HOSPITAL.

Case of Enlarged Tonsils in a Child—Laryngotomy—Excision.

W.W. FLANNAGAN, aged three years and a half, was admitted, Dec. 6th, for enlarged tonsils, causing occasional paroxysms of difficult breathing. Owing to the child's crying, and resisting examination, it was not easy to see into the back of the throat: but it was ascertained that the tonsils were large, and lodged deep in the fauces, and that they presented a considerable swelling on each side of the neck. The breathing was thick, the child keeping his mouth open. It is reported that it is during the night that the attacks of difficult breathing principally come on. His health does not appear to have suffered much.

He was treated for some time with iodine taken internally, and blisters applied to the neck. During this course he was always found playing about the ward, as if he suffered no inconvenience from his complaint. But it was more than once reported by the nurse, that he had been seized, during the night, with some fits of difficult breathing that alarmed her, and made her fear that he would be suffocated.

9th January.—In Mr. Tuson's absence, the patient came under the care of Mr. Shaw. Finding that he had passed a worse night than usual, it was resolved to attempt to remove one of the tonsils. But in proceeding to do this, it was found impossible to get a clear view of either of them. This was partly owing to the tonsils being situated low and concealed by the tongue, but also to the quantity of mucus that filled the back of the throat, and which could not be expelled by the efforts of the child. Besides, from being obliged to force the jaws open, the child cried; and he was then seized with fits of coughing, which added continually to the mucus in the throat. Nothing was therefore done; but he was ordered to have successive emetics, with the view of clearing the fauces, in order that the attempt at excision might be renewed on the following day.

10th January.—Mr. Shaw succeeded, without much difficulty, in removing a portion of the right tonsil, about the size of the last joint of the fore-finger. This was accomplished by seizing the tonsil, near its base, with the tenaculum, drawing the enlarged body forwards, and cutting out the tenaculum with the part it embraced, by means of the probe-pointed curved scissors. It may be noticed that the vomiting by the emetics had had the effect

of clearing away the accumulated mucus. In fixing the tongue, and holding it forwards and downwards at the same time, the scoop from the lithotomy case was found very useful.

13th January.—The child appeared to have suffered no ill effects, but, on the contrary, to have derived benefit from the operation. He had no recurrence of the attacks of difficult breathing at night; and he was seen to-day, at the usual visit, looking better than at any previous time. But a little after lecture, (at half-past three o'clock) Mr. Shaw was summoned to come with all haste to the hospital, as it was reported that the child was being suffocated.

He was found in the arms of the nurse, breathing with great difficulty, his face pallid, wax-like, and dark about the lips and eyes. When Mr. Shaw arrived, it was thought that he had rallied a little, owing to the house apothecary having induced some vomiting by a feather in the throat. A warm bath was speedily procured, and further efforts were made to get him to cough up the mucus, but this was attended with little success. He was watched for nearly an hour, when it was obvious that torpor and coma were increasing to a dangerous degree, while his breathing did not decidedly improve.

Mr. Shaw therefore proceeded, with the assistance of Mr. Arnott, to make an opening in the larynx, by cutting through the cricothyroid membrane and removing a portion of the cricoid cartilage. The incision was a little more than an inch in length. Considerable venous hæmorrhage continued to take place while cutting down upon the membrane; and this necessarily obscured the bottom of the wound. In consequence of the difficult breathing, the chest was elevated and the neck shortened, which caused the larynx to be not only drawn close to the sternum, but situated much deeper than natural. Again, in consequence of the larynx constantly changing its place, being sometimes drawn powerfully upwards and then immediately depressed to the same extent, it was necessary, in laying bare the membrane, before perforating it, to follow its motions with the finger, and to cut with the point of the knife, guided by the finger. The situation of the membrane was recognized by feeling for the notch in the upper border of the thyroid cartilage, and making allowance for the narrow interval, in the larynx of the child, occupied by cartilage, between the notch and the membrane; and then, by feeling the prominent ring composing the fore part of the cricoid cartilage below. (The operator, it may be remarked, would be foiled if he expected to find a prominence in the thyroid cartilage at this age,

answering to that of the *pomum Adami* in the adult.) It was observed, in clearing the surface of the membrane, that occasionally a portion of the thyroid gland started into the lower part of the wound, so as even to obscure the membrane; and this was apparently produced by the gland being squeezed into the space by the violent action of the muscles embracing it on both sides, and which pressed its lower part against the remains of the thymus gland and the fascia, occupying the superior opening of the thorax. After the cricothyroid membrane had been sufficiently exposed, a little time was allowed for the hæmorrhage to subside, before inserting the point of the bistoury into it. A longitudinal incision was made, extending through the membrane and the centre of the cricoid cartilage. A slight cut was then made transversely along the lower border of the cricoid cartilage on each side, so as to liberate it somewhat before snipping off portions both of it and the membrane with the scissors. Considerable difficulty was experienced in removing these portions, owing to the remarkable sensibility of the mucous surface of this part of the larynx; for, before using the scissors, it was necessary, of course, to raise the angle which had to be cut off, and this could only be done by transfixing it with the hook from within: but so great was the sensibility of the membrane, that whenever it was pierced, a fit of coughing, attended with a gasping and struggling, as well as a rapid motion of the larynx, was the result. When, however, after some ineffectual attempts, the portions intended to be cut away were removed, the orifice was of a size sufficient to admit a tube as large as a writing quill: the child breathed through the orifice with ease; but, on an elastic tube being inserted into the wound, it brought on such paroxysms of suffocation that it had to be withdrawn. Retractors, made by doubling a catheter wire, and then forming a hook at the part where it was bent, were now applied to the two lips of the wound, and fixed behind the neck, so as to hold the wound open; but the child would not allow these to remain. Adhesive straps were accordingly substituted, the ends of which were placed close to the edges of the wound, and after having got a hold they were drawn backwards upon the neck, so as to keep the lips apart. These answered very well, and the child breathed softly and easily. A nurse was ordered to sit beside and watch him.

14th January.—A remarkable improvement is visible in this child: he breathes tranquilly through the wound: his countenance has a clearness and freshness that indicate the relief he has obtained. (It is no small mark of his amendment, that in

one hand he holds a goodly slice of bread and butter, while in the other he has a boiled potatoe.) He is occasionally troubled with a slight cough.

16th.—There was some alarm last night, from his being threatened with a recurrence of his difficult breathing. This appears to be brought on by his drooping his head when sleeping, and thus closing the orifice of the wound. From watching his breathing, it is supposed that he breathes both through the wound and the natural passages; but he begins to cry whenever the wound is closed for the purpose of ascertaining this, and his crying brings on a fit of difficult breathing. Mucus is still expelled from the wound. There is a constant hacking cough, apparently induced by the mucus collected at the upper part of the larynx irritating the glottis, or perhaps kept up by the remaining enlarged tonsil being in contact with that part. The house surgeon is instructed to introduce a tube into the trachea through the wound, if the symptoms be again urgent.

For the two following days the reports were favourable. The nurse stated, that when she filled up the wound, while clearing it of mucus, the child sometimes uttered a word or two.

19th.—His breathing is undisturbed; but he looks ill, and is peevish. He has had purging, which has been checked by administering hydrarg. c. creta. with soda and aromatic confection.

During the following ten days, the child varied in his condition: sometimes he caused alarm by his laborious breathing and appearance of exhaustion; and at other times he was considerably better. From his feverishness, and having a running at the nose and cough, it was concluded that he had influenza superadded to his original illness. He derived benefit from the saline mixture, prepared with an excess of acid.

30th.—The wound, after narrowing daily, is closed and covered with a moist crust.

Feb. 7th.—There is now a gratifying change. The cough is almost gone. The countenance exhibits an appearance of health. He plays with the other children in the ward. The swelling caused by the enlarged tonsil on the left side is scarcely discernible. The wound is nearly cicatrized.

Feb. 21st.—He was dismissed.

March 14th.—The mother brought her child again to the hospital, requesting to have another operation performed, as every night, when he fell asleep, fits of suffocation came on that kept her in continual alarm. Notwithstanding this account, he is in better health than when he left the hospital. On examining the left tonsil, it was seen to present a little above the

tongue, and it was shifted somewhat towards the right side.

20th.—Hitherto nothing has been done, as there have been some reasons for supposing the attacks of spasmodic breathing to be owing to whooping cough. He has been taking rhubarb and soda, with a grain of extract of hyoscyamus, twice a-day. He has always been found running about the wards during the day; but for several nights he has disturbed the patients by the noise he makes in breathing, and by his fits of coughing.

21st.—To-day, Mr. Shaw removed, with the tenaculum and scissors, the greater part of the remaining enlarged tonsil.

April 1st.—No unfavourable consequences resulted from the operation. The breathing is no longer accompanied at night with noise or spasms, as before; but he sleeps soundly.

He was dismissed to-day, cured.

A C C O U N T

OF

A MAN WHO SUBMITTED TO BE BURIED ALIVE FOR A MONTH,

AT JAISULMER,

*And was dug out alive at the expiration of that
Period.*

Communicated by

H. M. TWEDELL, Esq.

I HAVE just witnessed a singular circumstance, of which I had heard during our stay at this place, but said nothing about it before, the time for its accomplishment not being completed: this morning, however, the full month was over, and a man who had been buried all that time, on the bank of a tank near our camp, was dug out alive, in the presence of *Esur Lal*, one of the Ministers of the Muharàwul, of Jaisalmer, on whose account this singular individual was voluntarily entered a month ago. He is a youngish man, about 30 years of age, and his native village is within five kos of Kurnaul; but he generally travels about the country to Ajmeer, Kotah, Endor, &c. and allows himself to be buried for weeks or months, by any person who will pay him handsomely for the same. In the present instance the Ràwul put this singular body in requisition, under the hope of obtaining an heir to his throne, and whether the remedy is efficacious or not, it certainly deserves to be known.

The man is said, by long practice, to have acquired the art of holding his breath by shutting the mouth, and stopping the interior opening of the nostrils with the tongue; he also abstains from solid food for some days previous to his interment, so

that he may not be inconvenienced by the contents of his stomach, while put up in his narrow grave; and moreover, he is sewn up in a bag of cloth, and the cell is lined with masonry, and floored with cloth, that the white ants and other insects may not easily be able to molest him. The place in which he was buried, at Jaisulmer, is a small building, about 12 feet by 8 feet, built of stone; and in the floor was a hole about three feet long, two and a half feet wide, and the same depth, or perhaps a yard deep, in which he was placed in a sitting posture, sewed up in his shroud, with his feet* turned inwards towards the stomach, and his hands also pointed inwards towards the chest. Two heavy slabs of stone, five or six feet long, several inches thick, and broad enough to cover the mouth of the grave, so that he could not escape, were then placed over him, and I believe a little earth was plastered over the whole, so as to make the surface of the grave smooth and compact. The door of the house was also built up, and people placed outside, that no tricks might be played, nor deception practised. At the expiration of a full month, that is to say, this morning, the walling up of the door was broken, and the buried man dug out of the grave; Trevelyan's moonshee only running there in time to see the ripping open of the bag in which the man had been inclosed. He was taken out in a perfectly senseless state, his eyes closed, his hands cramped and powerless; his stomach shrunk very much; and his teeth jammed so fast together, that they were forced to open his mouth with an iron instrument to pour a little water down his throat. He gradually recovered his senses, and the use of his limbs, and when he went to see him, was sitting up, supported by two men, and conversed with us in a low, gentle tone of voice, saying, "that we might bury him again for a twelvemonth if we pleased." He told Major Spiers, at Ajmeer, of his powers, and was laughed at as an impostor; but Cornet Macnaghten put his abstinence to the test at Pokhur, by suspending him for thirteen days, shut up in a wooden chest, which, he says, is better than being buried underground, because the box, when hung from the ceiling, is open to inspection; on all sides, and the white ants, &c. can be easier prevented from getting at his body, while he thus remains in a state of insensibility. His powers of abstinence must be wonderful to enable him to do without food for so long a time, nor does his hair grow during the time he remains buried.

I really believe that there is no imposture in the case, and that the whole pro-

ceeding is actually conducted in the way mentioned above.

This letter was written by Lieut. A. H. Boileau, of the Engineers, first assistant Great Trigonometrical survey, who at that time was employed in the survey of that part of the country. The gentlemen, whose names are mentioned in the letter, are Capt. Trevelyan, of the Bombay Artillery, and Cornet, now Lieut. Macnaghten, of the 5th regiment light cavalry, assistant to the agent to the Governor-General in Rajpootanah.

Some other information I obtained in the course of conversation with Lieut. Boileau; and which I noted down. Lieut. Boileau was unacquainted with the man's name or cast; he believed that he had taken up the life of a Fukeer; he understood that the man had been buried six or seven times, but whether for any period longer than a month he knew not; he did not hear how the man discovered his powers, or when he commenced to practise them. Lieutenant Boileau arrived at Jaisulmer, after the interment, and saw the place, described in his letter, in which the man was buried. There was a guard of four or five Chupra-sees, in the employ of the maharâwul, as he understood, who were on the watch, to prevent any interference or imposition. The process of burying, and of disinterring, was conducted in the presence of Esur Loll, one of the ministers of muharâwul. The day fixed for the disinterment was known to Lieut. Boileau, but not the exact hour. Captain Trevelyan's moonshee, who had set forth to give intelligence when operations were to be commenced, arrived only in time to see the people ripping open the cloth, or shroud, in which he had been inclosed. The moonshee immediately started off a man to inform his master, and Lieut. Boileau, who were in their tents, at a distance of about three furlongs.

They waited a few seconds to apprise Lieut. Mackeson, of the 14th regiment, N. I. British Agent for the navigation of the Indus (who had declined to accompany them,) and repaired to the spot as quickly as possible. Perhaps a quarter of an hour had elapsed, since the opening of the grave, before they arrived. The people had thrown a clean cloth over the man; two of them supported him; he presented an appearance of extreme emaciation and debility; but weak as he was, his spirit was good, and his confidence in his powers unabated, as in answer to Lieut. Boileau's and Captain Trevelyan's inquiries, he said "*that we might bury him again for a twelvemonth if we pleased.*" Lieut. Boileau examined, and measured with his walking stick, the grave in the floor of the chamber in which the man had been buried, and also the two slabs of stone which had been

* Query feet, the word as used in that part of India, is *gor*, and means foot or leg.

used to cover the mouth of the grave. For seven or eight days preceding the burial, the man lived entirely upon milk, regulating the quantity so as to sustain life, whilst nothing remained to give employment to the excretory organs. In that state he was buried. He confesses to have great dread of the white ants. Several folds of cloth were spread on the bottom of the grave, to protect him from their attacks. On taking nourishment after his release, he is said to be in a state of anxiety, until he has ascertained that the powers of his stomach and intestines are not impaired. Lieut. Boileau saw nothing more of the man; he understood that he regained his strength, and was for some time in attendance at the durbar of the Muharàwul, in the hope of receiving his promised reward, and that tired of waiting until the purse strings of the patron were loosened, he had stolen a camel and decamped.—*India Journal of Medical and Physical Science*,

ON THE

CILIARY MOTIONS IN THE BRAIN.

By M. PURKINGE.

It has at length occurred to me to discover cilia, and their motions, in all the cerebral cavities of *mammalia*. In the preceding summer, while examining the *chordæ Bergmannicæ*, having observed, on fine slices of epithelium, a structure similar to that of the ciliary membranes, I conjectured that it would be found to possess the same function. Accordingly I made many investigations with the view of discovering this, but in vain, until the 28th of May of the present year (1836), when I detected the ciliary motions, in the greatest activity, in the brain of the full-grown foetus of a sheep, about thirty hours after death. The cilia were very distinct on all the walls of the cerebral cavities, and even where they were not in motion. I traced the motions, without difficulty, through the third ventricle into the infundibulum, then through the aqueduct of Sylvius into the fourth ventricle. Here there was no motion perceptible, but the cilia themselves were distinctly visible, although somewhat shorter than in the former situations. The cilia are proportionately long pointed (not ragged as in the bronchi), and vibrate thong-shaped (*peitschenförmig*): we can also distinguish a layer of granules, in which they are fixed, and which can be easily stripped off without destroying the continuity of the epithelium. I recently observed them in the brain of a sheep; and

Dr. Valentin saw them in the full-grown foetus of a sow; but they could not be detected in a much younger foetus of the same animal, probably because the parts are too fine for our gross instruments. In these observations I could remark that the cilia in the ventricles of the brain were much more sensitive and easily destroyed than in any other structure. I could not detect them in the brain of a sparrow, nor in a carp, nor in a diseased human brain. Probably they are in all parts very transient, yet readily reproducible; at least this may be considered as made out in regard to the ovaria and mucous membrane of the nose.—*Mueller's Archiv*. No. III. and IV., 1836; and *Brit. and For. Med. Rev.*

REMARKABLE SLOWNESS OF PULSE IN THE HORSE.

I WAS called, on the 17th of October, 1835, to a horse belonging to Mr. Ruxton Hill, of Fiddes, Feveran. When I examined him, I found his pulse *only ten in the minute*, with that strong bounding rattle which made the whole chest shake, so that you could have seen it at a distance. The heart at times ceased beating, and the horse fell down. Nevertheless he fed pretty well. I told the owner that, not being perfectly assured as to the nature of the disease, it would be as well for him to call in some other practitioner whom I might meet in consultation; however, he would not hear of that, but desired me to do what I thought best with regard to him. Accordingly, I bled him, gave him laxatives every second day, inserted a seton behind each ear, and a rowel in his chest, and continued that treatment for a fortnight, when he gradually fell off his feed. In consequence of this I left off the laxatives, and the pulse rose to 25 per minute. As, however, the horse was still getting worse, and continuing to fall down every now and then, and there being no ultimate prospect of his recovery, I got two other veterinary surgeons to go and see him, who were of the same opinion as myself as to the hopelessness of the case. On this the owner of the horse gave us permission to destroy him. The disease proved to be dropsy of the spine, in the situation of the cervical vertebræ. On opening the spinal canal, at the first and second vertebræ, a considerable quantity of water flowed from the neck, evidently proceeding from a lower part of the spinal cavity. The brain and all the internal organs appeared quite healthy.—*Mr. Pope, in Veterinarian*.

TABLE V.—DIPTERAL LARVÆ, PRODUCING MYACIS.

Family and Genus.	Larval Species.	Authority.	Country.	Reference.	Figured or not.	Local Affec.	Sex.	Age.	Result.
<i>MUSCIDÆ.</i> <i>Musca.</i> Case 31.	Larvæ unknown: in myriads. Carnaria.	Dr. Pickells.	Ireland.	Trans. Coll. Phys. vol. iv. p. 195.	Plate iii. fig. 1.	Stomach.	Mary Riordon.	28	Recovery.
	32	Dr. Cheyne.	Ireland?	Edin. Med. and Surg. Journ. vol. vii. p. 48.	Fig. vol. vii. p. 48.	Intestines.	....	....	....
	33.	Dr. Kellie.	Leith, Scotland.	Ditto.	Fig. 5 and 6.	Stomach.	....	....	....
	34.	Dr. Bateman.	England?	Ditto.	Plate vii. fig. 3 and 2.	Intestines.	....	....	....
	35.	Dr. Chichester.	Somersetshire.	Ditto, p. 326.	....	Left side.	Mary Gardiner.	14	Recovery.
36.	Unknown larvæ: very numerous. Cibaria.	Dr. Good. Dr. White. Ditto.	....	Ditto, vol. i. p. 17.	....	Stomach.	....	....	....
37.	Cibaria: many larvæ.		Somersetshire?	Mem. Med. Soc.	....	Abdomen, anus.	....	30	....
<i>Elaphilus.</i>	1. Pendulus, Fab.	Bonnet.	Switzerland.	Bonnet, vol. x. p. 144.	....	Stomach.	Female.	....	....
	2. Pendulus, Fab.	Rev. W. Kirby.	England?	Phil. Mag. vol. ix. p. 336.	....	Stomach.	Female.	....	....
	3. Pendulus, Fab.	Acrel.	Sweden.	Nova Acta Upsal.	Vol. vi. p. 100.	....	....	....	....
	4. Pendulus, Fab.	Odhelius.	Sweden?	Venteusk Acad nya-Haud. 1789.	....	....	....	....	....
	5. Pendulus, Fab.	Ziegler.	Italy?	Giornale Lettera der Pise.	Bremser, fig. 9, pl. B.	Vesica Urinaria. Chest.	Female.	....	....
<i>Stratyomis.</i>	1. Sp. unknown: 3 different sized larvæ of	Rev. F. W. Hope.	Norfolk.		....		Female.	12 or 13.	Recovered.
<i>Tipulidæ.</i>	1. Apodous larvæ.	Rev. W. Kirby.	Ipswich, Suffolk.	Kirby and Spence, vol. i. p. 139.	....	Voided with urine.	....	....	....

NITRATE OF SILVER IN GONORRHŒA.

To the Editor of the Medical Gazette.

SIR,

I OBSERVED in the pages of your journal last week, a communication from Dr. Hannay, on the use of nitrate of silver in cases of gonorrhœa in the female. From the whole tenor of his paper, Dr. Hannay seems to think the subject quite new; but in a little work written by Dr. Jewel, on Leucorrhœa, so long since as the year 1830, I find a distinct chapter on Gonorrhœa in the Female; and the only local remedy spoken of is the nitrate of silver. It is true that in the cases detailed by Dr. Jewel, the solution was employed; but, on a perusal of the same work, Dr. Hannay will discover cases in which the nitrate of silver was used in substance, and in the same manner as is now recommended in Dr. Hannay's paper.

I presume that most practitioners in this country are fully aware of the value of the nitras argenti as a therapeutic agent in leucorrhœa and gonorrhœa in the female, and that it has been commonly employed for many years by the author alluded to, and others, both in substance and solution, with the happiest results. It is gratifying, however, to find such additional testimony in favour of what I believe to be a valuable remedy.

I am, sir,

Your obedient servant,

THOS. PALETHORPE, M.D.

London, May 9, 1837.

CHRONIC FLUOR ALBUS, CURED BY IODINE.

BY DR. MUELLER.

A YOUNG female had long suffered from leucorrhœa, which had diminished her strength, and had yielded to none of the means commonly employed in this disease; when the ointment of the hydriodate of potass was rubbed, morning and evening, into the internal surface of her thighs. After this inunction had been continued for four weeks, the disease had entirely ceased; and a careful and nutritious diet soon restored the strength.—*Wochenschrift für die gesammte Heilkunde*, No. 40, 1836; and *Brit. and For. Med. Rev.* No. 6.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 11, 1837.

Charles Nathan.
George Joseph Perry, of Henbury, near Bristol.
John Wiblin, of Bath.
William Haydon Loxley, of Evesham.
Henry William Livett, of Trowbridge, Wilts.
Thomas Bryan Hayton, of Milnthorpe.
William Butler Langmore, of London.
William Manthorp, of Thorp-le Soken, Essex.
Augustus Goring Greaves, of Derby.
Edw. Francis Whitworth, of Acre-house, Caistor, Lincolnshire.

WEEKLY ACCOUNT OF BURIALS,
From BILLS OF MORTALITY, May 9, 1837.

Age and Debility	45	Bowels & Stomach	8
Apoplexy	13	Brain	5
Asthma	10	Lungs and Pleura	10
Cancer	1	Influenza	4
Childbirth	4	Insanity	4
Consumption	72	Jaundice	1
Convulsions	27	Liver, diseased	4
Croup	2	Measles	10
Dentition or Teething	6	Mortification	5
Dropsy	18	Paralysis	3
Dropsy in the Brain	18	Small-pox	1
Fever	13	Spasms	2
Fever, Typhus	3	Stone & Gravel	1
Hæmorrhage	1	Thrush	1
Heart, diseased	1	Unknown Causes	11
Hooping Cough	14		
Inflammation	39	Casualties	8

Decrease of Burials, as compared with } 153
the preceding week }

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

May.	THERMOMETER.		BAROMETER.	
Thursday	4	from 37 to 61	29.73 to 29.86	
Friday	5	34 60	29.92	30.00
Saturday	6	26 58	30.04	30.07
Sunday	7	25 59	30.02	29.92
Monday	8	35 53	29.82	29.66
Tuesday	9	30 55	29.60	29.59
Wednesday 10		22 47	29.58	29.72

Winds N.W. and N.E.

Except the 5th, 6th, and morning of the 7th, generally cloudy; rain on the 8th, and two following days; hail on the 9th and 10th.

Rain fallen, .2625 of an inch.

DR. CUMMIN'S LECTURES.

As Dr. Cummin had been for some time preparing to publish on Forensic Medicine, we have reason to hope that we shall be able to have the Course completed nearly in the manner of the part already published; but the arrangements not depending exclusively upon us, are not yet completed. Should we fail in this, we propose to complete the Lectures on this subject from another source, as soon as we can do so in a manner consistent with the very high character of those already given.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 20, 1837.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE XIII.

On Paralysis in general—On Paralysis depending on affections spreading from the extremities of the nervous system to its centre—Gouty Ramollissement of the Spinal Marrow; two remarkable Cases of—History of this hitherto undescribed form of disease.

IN pursuing the subject of my last lecture, I shall now turn to the consideration of some phenomena connected with the gouty diathesis which possess a much deeper interest, and lead to views of far greater importance. I mentioned before, that we frequently observe flying pains, or twitches, in various parts of the body, arising from a rheumatic or gouty cause; that in some instances these affections appear to be limited chiefly to the nervous trunks or branches, and that we have thus what may be termed gouty or rheumatic neuralgia. We are familiar with rheumatic and gouty sciatica, and we know that the history and termination of this form of disease often prove it to be inflammation of a specific character, chiefly confined to the trunk of the sciatic nerve. Now it is not unreasonable to suppose that this specific inflammation of a nervous trunk or branch, may, like other inflammations, extend farther, so as to involve parts of more importance to the economy. What I wish to draw your attention to is this—that in certain cases, where gout attacks the nerves, giving rise to gouty congestion or inflammation, fre-

quently recurring, and acquiring increased strength and deeper root as it proceeds, the morbid affection may, after years, or even months, run on until it reaches the spinal cord, involving a certain portion or portions of that organ, and producing loss of sensation and motion commensurate to the amount of spinal derangement. This is by no means an anomalous occurrence; it is merely an instance of disease originating in the periphery of the nervous system, passing along the trunk of the affected nerve with a retrograde motion, and finally reaching the central parts. In my lectures published two years ago, in the London Medical and Surgical Journal, I pointed out this peculiarity in many affections commencing in the periphery of the nervous system, and showed how the disease extends gradually until it reaches the spinal cord, giving rise to various forms of paralysis. It is too much the custom to look upon paralysis as depending upon original disease of the nervous centres. I have proved, that, very often, disease commencing in the nerves of some particular part or organ, may be gradually propagated to the spine, producing all the symptoms which are referable to an original affection of the nervous centres. In my lectures on this subject, I have brought forward numerous facts in proof of the propagation of disease from the circumference to the centre of the nervous system; and the pathological deductions I drew from these facts seem to me to include all the physiological discoveries made by Müller and Marshall Hall, concerning what the latter terms the reflex function of the spinal marrow. In these lectures I showed that enteritis, arising suddenly in two young and healthy persons, from indigestion and obstruction caused by an error in diet, was followed in both by well-marked paraplegia. I instanced, likewise, examples of paraplegia connected with stricture of the urethra, and which were relieved by curing

the stricture; and I detailed cases of acute and chronic affections of the uterus and kidneys, which had entailed on the patients, as a remote consequence of the original disease, loss of the power of motion in the lower extremities, sometimes partial and curable, sometimes irremediable and complete. The cases I am now about to relate form a most interesting and valuable addition to those referred to, and enable me to carry the principle then advanced still farther, by proving *that gouty inflammation of the nerves and their neurilema, may, in process of time, extend to the spinal marrow and its investments, and give rise to derangements of the latter, terminating in ramollissement and structural degeneration.*

The subject of gouty degeneration of the spinal cord has not been alluded to distinctly by any author with whom I am acquainted, and is, as far as I can learn, quite new. The deductions, therefore, which are drawn from my cases, must, of course, be subject to such modifications as may be derived from future experience, and must remain to be confirmed by further observation. It has been long known that gout may attack the brain, and the existence of gouty paraplegia is well known by practitioners who have studied attentively the progress of arthritic affections. Thus, in a case which I witnessed some time back, in consultation with Mr. Kirby, he prognosed the super-vention of paraplegia at a time when the indications of its approach could not have been discovered by an observer of less experience and sagacity. I have already stated that gouty affections of the brain have long been known, and I am not sure that some of the older authors may not have alluded to gouty affections of the spinal marrow; but as our knowledge of the peculiar state of the brain and spinal cord, termed ramollissement, is comparatively recent, and not dating with any degree of accuracy earlier than the works of Abercrombie, Rostan, and other modern authors, it is obvious that any observations made by the older writers, concerning gouty affections of the nervous centres, can have no distinct reference to this lesion. The connexion, therefore, of ramollissement of the spinal cord with gout, may be considered as now, for the first time, distinctly pointed out. As one of the cases which I am about to detail presented an example of the most extensive ramollissement of the spinal marrow on record, it would, on this account alone, be especially deserving of attention; but its interest is increased tenfold when placed in juxtaposition with the second case, so as to exhibit, in a striking point of view, the close resemblance observable in the march or progress of both, as well as

the identity of the lesions discovered after death.

Mr. —, residing in the Island of Anglesey, was very much addicted to field sports, and, while thus engaged, would occasionally remain for a whole day without food. He was also very fond of angling, and has been frequently known to wade up to his middle in water for many hours together, during very cold weather. His general health was good, and his habits were abstemious. In 1825, when about twenty-five years of age, he had fever, attended with inflammation of the joints, and said to be rheumatic: some pain and stiffness, and an evident enlargement of the knee-joints, remained, after the other articular affections had disappeared; these symptoms, however, yielded, in a few months, to rest and appropriate treatment. His breath also improved greatly, and he had no complaint of any kind whatever until the autumn of 1828, when he had a slight attack of ordinary cholera, after returning from a shooting excursion. In the spring of 1832 he was attacked with pain in one foot, supposed to be of a gouty nature: this pain disappeared during a drive of fifteen miles in an open carriage, but a certain degree of tenderness remained, and was always felt, more or less, in the part originally affected. He had a similar attack of pain and tenderness in the same foot in the following autumn. At the time when this attack commenced he was twenty miles from home, and observed that during his journey the pain became diminished as before, and in a few days subsided altogether. In August 1833, he had a similar, but much more severe, attack; the pain was much more violent than before, and both feet were affected. This, however, did not prevent him from following field sports as usual; he went on horseback to the mountains to shoot grouse, and to this exercise, and drinking a bottle of wine, he attributed his speedy, or rather sudden, recovery from the pain in his feet.

Hitherto we have seen a naturally strong constitution struggling successfully against exposure to cold, imprudent habits, and a most injudicious method of disturbing, or rather repelling, local inflammation depending on a gouty diathesis. It is not easy to explain how it happened that driving in an open carriage, or riding over the mountains, so effectually cut short the paroxysms of gout in the feet; but it is enough to know that the fits were suddenly and imprudently arrested, to be prepared for the consequences which ensued—viz. an irregular distribution of the gouty effort, and its determination to internal organs.

In September 1833—that is, about a

month after the sudden subsidence of the last attack—he was seized with a violent colic, accompanied by obstinate constipation. The pain was very severe, but he suffered more from a general feeling of restlessness (a restlessness beyond belief, as he expressed it) than from actual pain. He was also greatly annoyed by singultus, and was jaundiced, after recovering from the attack of colic. In a lecture already published, I have mentioned some cases of jaundice supervening on arthritic affections; in such instances I am inclined to think that it depends on rheumatic or gouty hepatitis. In January 1834, he had another attack of colic, preceded by a fit, the precise nature of which I was unable to ascertain. As these abdominal attacks frequently recurred, I shall give a description of one of them, as communicated to me by Dr. Llewelyn Jones, jun., his attending physician, a gentleman who justly enjoys a high reputation in his profession. “A dull, wearing, and fixed pain would attack the patient in the region of the colon: this pain was not increased by pressure, and was accompanied by nausea, occasionally by vomiting, and always by obstinate constipation. These symptoms were attended by a most distressing sensation of restlessness and anxiety. They lasted, on one occasion, for three days and nights before I could get the bowels opened, when they were immediately mitigated. The pulse was never quickened, and in general remained natural; but if the attack was prolonged, it became weak. There never was any fever, or any well-marked indication of inflammation in the abdomen. These attacks were always preceded or followed by a gouty affection of the feet.”

The attacks in the stomach and bowels recurred frequently, and always with the same symptoms, until August 1835, when a visible tremor of the fingers became observable: during some preceding attacks he used to complain of weakness of the wrists and pains in the fingers, particularly the last joints. As the disease progressed these pains became more intense and extensive, and the torture he felt in the hands and arms was beyond description. After August 1835, he began to lose the use of his arms, the tremors increased, and he began to complain of stiffness about the neck, with great restlessness and anxiety. The abdominal attacks came on occasionally, but not so severely as before. The arms became gradually weaker, until the loss of muscular power was complete, and they were greatly emaciated; but Dr. Jones, who had the patient under his observation until August 1836, could not detect any evident diminution, either in the upper or lower extre-

mities, and the intellectual faculties remained perfectly unimpaired. In October 1835, two months after the state of the upper extremities had indicated the approach of paralysis, the lower extremities became similarly engaged: they were affected with tremors and weakness, and in the following December the patient had an attack of violent pain, with swelling and increased heat in the ball of one foot, which was pronounced to be of a distinct gouty character. After each attack of pain in the feet, as I have been informed by this gentleman's sister, the loss of power in all his limbs increased, and if he gained a little strength in the intervals between these attacks, a recurrence of the paroxysm always made him worse than before.

In February 1836, I went to Anglesey to visit this gentleman, and saw him in consultation with Dr. Jones and Dr. Williams of Denbigh. After a minute examination of the history and symptoms of the case, I declared it to be my opinion that a gouty inflammation had attacked the nerves of the extremities, and had finally extended to the spinal cord and its sheath. I said, that at an earlier period of the disease I would have advised salivation by mercury, but as that was inadmissible under the existing circumstances, we should have recourse to other measures. I forgot to state that from the commencement of the disease the advice of Sir B. Brodie and other eminent practitioners in London had been obtained by letter.

It would be useless to detail the various general and local remedies fruitlessly employed in this gentleman's case. He went to Liverpool in August 1836, for the benefit of further advice, but finding no relief, returned to Denbigh, where he died in the ensuing October. For some time before his death he was greatly emaciated, and quite paralytic in all his limbs, but retained his intellectual faculties entire to the last. His body was examined by Mr. Williams, whom I had met in consultation in the preceding February. This gentleman informs me that the viscera of the thorax and abdomen were healthy and normal, that no derangement or lesion of the brain could be detected, but that the spinal cord opposite to the last cervical and first dorsal vertebræ was softened to the consistence of thick cream; the remainder of the cord was also softer than natural, but did not present any thing peculiar in other respects.

In a letter which I have since received from Mr. Williams (to whose kindness I am much indebted, and to whose zeal and professional skill I can bear ample testimony), he expresses himself with regard to the nature of the patient's disease in a way which confirms the views I have taken.

He observes, "I once saw Mr. — in an attack of gout in the feet about three years before his death. There was much pain, and a decided gouty blush. Exposure in fishing and shooting to a very imprudent degree, while under the influence of these gouty attacks, I have no doubt did much to render the disease irregular and erratic."

The fact that the tremors and loss of power commenced in the arms two months before indications of paralysis of the lower extremities appeared, is sufficient evidence to prove that the spinal marrow was not the point from which the diseased action proceeded originally; for had this been the case, an affection of this organ, sufficiently violent to give rise to paralysis of the upper extremities so gradual in its progress and so well developed, must long before this period have occasioned paralysis of the legs also. There is a striking analogy between the progress of the tremors and paralytic symptoms in this case and in cases of painter's colic; and the analogy likewise holds good as to the violent spasmodic affection of the bowels and the constipation observed in both. It is further worthy of notice, that in painter's colic the nervous affection is accompanied by pain and weakness of the extremities, and ultimately, although long after the commencement of the disease, by spinal tenderness,—a fact which has been already noticed by Dr. Bright. Again, in painter's colic, as in the disease which I have just detailed, the affection of the spinal cord, and the consequent paralysis, are evidently subsequent to the disease of the peripheral portion of the nerves.

The next case, which I shall now proceed to detail, is one of equal interest and importance. A gentleman, of robust frame, aged about 55, and having an hereditary predisposition to gout, to which his father had been a martyr, and which had exhibited itself in one of his sons at the early age of 13, consulted me on the 7th of June, 1836. Being a man of extensive landed property, he resided chiefly in the country, and was in the habit of using much active employment and exercise, but indulged rather freely in the pleasures of the table. After suffering much annoyance from dyspeptic attacks, and various premonitory symptoms, he had a regular paroxysm of gout in the spring of 1828; he had a similar in 1830, and another in 1832, each occurring, as before, during the spring season, and remarkably severe. During the year 1832 he had several slight returns of the complaint, and in January 1833 had an alarming attack of an enteritic character, accompanied by spasms of the stomach and acute pain of the extremities. In the autumn of 1834

he suffered greatly from a nephritic affection, and got relief after passing a considerable quantity of uric acid gravel. In the spring of 1835 he had a fall from his horse, and for some time afterwards complained of pain in the small of the back and around the trunk. He recovered, however, and during the summer and autumn of that year remained pretty well; but in the last week of December caught cold, which was followed by severe cough and pains in the chest and feet: the latter were then considered to be the effects of gout. From this period his health, though often apparently restored, was never firm: he became subject to sudden attacks of pain, particularly in the chest, which gave him much uneasiness. On the 3d of June he consulted a physician in his neighbourhood, to whom he described his ailment as "a slight pain in the right side, which troubled him only a short time before he got up in the morning;" this he stated he had felt occasionally for two months before. A very careful examination was made over the situation of the liver, the place in which he said he felt pain, but no tenderness or swelling whatever was detected, nor was there any in the direction of the spinal cord. His pulse was at this time perfectly regular, his bowels natural, and no dyspeptic symptoms existed. He used, by the advice of this physician, tonic and laxative pills, and a stimulant embrocation.

When he consulted me on the 7th of June, 1836, I found him labouring under what appeared to me to be pleurodynia of an intermittent and gouty character. During the day he was perfectly free from pain, but in the evening the pain commenced, and continued with violence until morning. It is unnecessary to detail here the various local and constitutional remedies which I employed in this gentleman's case, but without any favourable result. From the middle of June his symptoms became worse; during the first part of the night his pains were very severe; towards morning he usually obtained relief by lying on his face, and carefully avoiding all motion. About the latter end of July, the pain, which had been almost constantly felt at the right side, moved to the left, imparting at one time the feeling as if a spear were passing through the diaphragm, and at another resembling the sensation as if these parts were squeezed in a vice. When he was in the horizontal position this pain was accompanied by a sense of weight; and at times the pain would shoot upwards to the clavicles, producing tenderness of the intercostal spaces. When the diaphragm was free from pain, it most commonly attacked the postero-inferior edges of the

scapula, and the dorsal region in its vicinity. In August he tried the use of the warm bath, and found temporary relief from the first he took; he remained too long in the second, which was heated to the temperature of 100, and nearly fainted. He used the warm bath six or eight times, but found no material benefit from it, and could not bear the pain produced by the jolting of his carriage in going thither. About this time there was a visible alteration in his gait and figure: the left shoulder was elevated, his whole frame attenuated, and his face pale; he had nearly lost all power of bending the spine, and walked with a peculiar stiffness of gait, as if his arms were pinioned. On the morning of the 21st of August he stated that he had suffered great agony during the night, and on its abating, considerable tumefaction was observable under the right ribs. Dyspeptic symptoms now became urgent, his urine scanty and turbid; he became melancholy, and his mind was wholly occupied with sad presentiments. At my recommendation he came to town, in order to place himself under my more immediate observation, and to have the benefit of a consultation. About the 30th of August he got, to his great joy, an attack of gout in both feet; while this lasted, which was for about six days, he had complete relief from the agonizing pains in the diaphragm and chest. The interval of tranquillity was, however, but of brief duration; the inflammatory affection of the feet suddenly subsided, and the pain attacked the diaphragm with increased intensity. His strength, which had been rapidly failing, now gave way, and he became quite paralytic. About the 10th of September the abdomen became engaged, without any alleviation of the thoracic symptoms, and he began to complain of constipation, tympanitis, and abdominal tenderness. The mucous membrane of the bladder became next affected; he had retention of urine, with great irritation of the prostate gland, and it was necessary to draw off the water with the catheter several times in the day. This state continued from the 22d of September to the 10th of November, when the sphincter of the bladder became paralysed, and the urine drained off as fast as it was secreted. During all this time the urine continued to present the characteristic marks of the lithic acid diathesis in an extreme degree, and contrasted strongly with the secretion furnished by the inflamed mucous membrane of the bladder, which consisted of a greyish or whitish yellow, viscid, and somewhat puriform mucus, containing either a free alkali, or an alkaline carbonate. This secretion was extremely adhesive, and hung

down in long ropy filaments when the vessel in which it stood was inverted. The nature of this mucus was such as to prevent any reaction from taking place between its own alkali and the acid of the urine. The coexistence of two secretions in the bladder, the one alkaline, and the other acid, as observed in this case, is extremely curious.

In this way the patient's sufferings went on every day increasing, and requiring the most extraordinary care to produce any alleviation, a task which was discharged with the most indefatigable humanity and attention by Mr. Richardson, of Sackville-street, to whom I am indebted for most of the details connected with the earlier history of this case. About ten days before his death, the extremities, upper as well as lower, and the trunk, became quite paralytic; and from the cervical vertebrae downwards, all power of motion and sensation was lost. His voice now became weak and inarticulate, deglutition was greatly impeded, and he finally sunk on the 27th of November, 1836.

It may be necessary to state, that at the time the paraplegia was beginning to seize on the extremities, the patient was much annoyed by occasional involuntary jerkings of the weakened limbs. This morbid action of the voluntary muscles continued when all power of voluntary motion had completely ceased.

This gentleman's body was examined twenty hours after death, by Mr. Adams. The body and limbs were greatly emaciated, and there were several sloughing sores on various parts of the body and limbs, particularly over the scapulæ, sacrum, and ileum. The brain was perfectly healthy, with the exception of a slight effusion under the arachnoid, and into the fourth ventricle. On opening the spinal canal, which was done with extraordinary care and accuracy, the spinal marrow, from the fourth cervical vertebra down to its dorsal termination, was found converted into a morbid mass, of an ash-grey colour and pulpy consistence. The theca was quite healthy; but on the first transverse section of it a great quantity of yellow serum flowed out, emptying at the same time the fluid contained in the fourth ventricle of the brain. When the medulla spinalis was slit from above downwards, various shades of colour were noticed on the surfaces of the sections. Opposite to the third dorsal vertebra a blackish colour prevailed; and from this downwards a yellowish hue was noticed. Two little tumors, about the size of filberts, were found attached to the crura of the fourth dorsal vertebra; these, as Mr. Adams remarked, were in all probability merely accidental formations. The blad-

der was very much thickened in all its coats, and was so contracted that it could not contain more than three ounces; its internal surface was of a dark green colour, approaching to black. The ureters were also thickened, the kidneys enlarged, and their lining membrane of the same dark colour as the bladder. The pelvis and infundibula of the kidneys were dilated, and contained a reddish diseased urine, with some puriform matter, the odour of which resembled that of the urine passed during the three weeks previous to his death. The other viscera did not present any thing worthy of remark.

In order to understand the nature and progress of a disease like this, which travelled in a retrograde direction along the nerves and their sheaths to the spinal marrow, it may be well to point out some of the more striking phenomena by which it was characterized. In the first place, the long continuance of the pains at one side of the body only, is in itself a demonstration that the disease was then situated in the peripheral extremities of the nerves, and not in the spinal marrow; for it has been well observed by Ollivier, that inflammation of the spinal marrow or its sheath can never remain confined to one-half of either for more than a very limited period. Indeed, so narrow is the cavity in which these parts are contained, and so intimate is the connexion of their constituent parts, that it is quite impossible for inflammation to remain more than a few hours, or at most a day or two, confined to either side.

Some facts connected with disease of the spinal vertebræ, and the pains accompanying the progress of that disease, may appear to contradict this view of the subject; for in vertebral caries pains are often felt at one side, or in one limb—nay, they often cease, or seem intermittent. Now in order to explain this we have only to recollect that here the inflammation does not commence in the spinal marrow or theca, but in the bones, and that the nerves, after their exit from the spinal cord, are affected in all cases before the cord itself. The reason is obvious; the affection of the nerves is secondary, and solely derived from their proximity to the inflamed bone and investing tissues; and consequently the nerves on one side may be affected, while the corresponding nerves on the other side escape for the time, and until the disease in the bone extends itself to their neighbourhood also. This view of the subject has not escaped the notice of German pathologists.

In the case above related the pains continued in one side for months, and were then suddenly transferred to the other, an

occurrence which is quite irreconcilable with the idea of their dependence on primary spinal disease. The well-marked ease the patient experienced when the gout appeared in the feet, and the perfect intermissions of pain which he frequently enjoyed during the earlier stages of the complaint, afford strong evidence that the pains, however violent and excruciating they might have been during the paroxysms, did not depend on an original affection of the spinal cord. Had the fall which this gentleman received, or any other injury, induced inflammation of the spinal cord, and subsequent degeneration of structure, the order and course of his symptoms would have been very different, and long intervals of comparative ease would not have intervened between the appearance of the first pains and the subsequent paralysis.

When paraplegia originates in disease of the spinal cord itself, retention of urine, or irritability of the bladder, often announce the approach of the disease long before the loss of power in the limbs becomes evident; whereas, in all those cases in which the paralysis creeps from the extremities along the nerves towards the spinal marrow, the bladder is affected only at a late period of the disease, as occurred in the case which I have just detailed. Finally, the remarkable similarity which exists, in various points, between this case and that of the Welch gentleman, who had never met with any accident or injury, and in whom a considerable degree of ramollissement was observed, leaves no doubt that in both instances the disease commenced with gouty neuralgia, and inflammation of the nervous extremities and their sheaths, which gradually extended to the central portions of the nervous system, and ultimately involved the spinal cord.

It is of great importance that practitioners should be aware of this termination, and know that in gouty habits the sad results already noticed may be produced, particularly as a knowledge of this fact may lead them to the timely adoption of preventive measures. Having experienced the total inefficacy of colchicum, hydriodate of potash, strychnine, and all the usual remedies, in relieving or removing this form of disease, I would be strongly inclined to recommend the early insertion of issues over the spine, with prompt and decided mercurialization. Mr. Colles has recommended the use of mercury in paraplegia, and cites some cases in support of the utility of the practice. It is to be regretted that he has not given any hints as to the mode of diagnosing the cases likely to be benefited by the mercurial treatment, from those in which

mercury would be inadmissible. Hence his recommendation loses much of its value, and cannot serve as a guide to those who have to treat spinal disease connected with paralytic symptoms. It appears, however, sufficiently plain, that mercury, employed at an early period of the disease, is most likely to prove serviceable where symptoms of paralysis arise from inflammatory affections of the nerves or their neurilema, or of the spinal cord and its sheath.

So far at present on the subject of paralysis, as connected with the gouty diathesis. I hope to be able, at some future period, to bring it again before you in a more complete and extended form.

TWO LECTURES

ON

LITHOTRITY AND THE BI-LATERAL OPERATION,

DELIVERED IN

London, Birmingham, Bath, and Bristol,

BY EDWIN LEE, Esq., M.R.C.S., &c.

LECTURE II.

WITHOUT entering into any detailed inquiry respecting the comparative merits and demerits of lithotrity and lithotomy, I shall briefly notice some of the inconveniences which sometimes attend these operations, and which may occasion their failure; and shall mention some of the cases to which the one or the other is considered to be more specially applicable. Those persons who think that lithotrity ought to supersede lithotomy on all occasions lay great stress upon the danger to life attendant upon the latter operation. It is true that lithotomy, abstractedly considered, is a more dangerous operation than lithotrity; but when performed under favourable circumstances it is successful in the great majority of cases, the patient being radically relieved of his disease in the space of a few minutes; whereas lithotrity, though by no means exempt from danger, is often a very painful operation, which usually requires to be repeated several times before the stone is removed, and renders the patient liable to consequences which do not ensue after lithotomy: thus the breaking or displacing of the instruments within the bladder, though less likely to happen now than formerly, with care on the part of the operator, is still an accident that has occurred several times, and the risk of its recurrence will always constitute one of

the objections to lithotrity. It cannot always be known for certain that after lithotrity all the fragments have come away. Several cases have occurred where fragments have been retained, though they could not be detected on sounding, and have formed nuclei, round which a fresh deposit of calcareous matter rapidly took place. This, then, is another objection to lithotrity. A puriform discharge from the urethra, and swelling of the testicles, especially if they are not properly supported, are not uncommon. These, however, are but minor inconveniences, and generally disappear after a few days' rest. Some degree of fever mostly ensues upon lithotrity, as upon other operations; this is generally slight, but sometimes runs high, assumes an intermitting character, and is accompanied with symptoms of general nervous irritation of an alarming nature. Other accidents more peculiar to lithotrity, and induced by the strain upon the parts, are, neuralgia of the neck of the bladder, inflammation and abscess about the prostate or of the cellular texture of the perineum, which may give rise to retention of urine, and occasion the patient's death. Retention of urine may also be induced by the stoppage of fragments in the prostatic or membranous portions of the urethra, which is an accident of very frequent occurrence, and often gives rise to a high degree of irritation. The fragments are often only arrested for a short time, being expelled on the patient's making water in a full stream; but should this not be the case, they should, if possible, be pushed back into the bladder with a full-sized sound. This, however, cannot always be done, and two or three instruments have been invented for the purpose of breaking them down; though from the difficulty of their application the attempts would be very likely to fail in inexperienced hands, in which case it would be necessary to cut down upon, and extract the foreign body through, the perineum. This operation has, I believe, only been required on two or three occasions, as the fragment can in most cases be pushed back, the portion of the urethra between it and the bladder being generally dilated by the accumulation of urine. This accident, then, is one of the principal obstacles to the success of lithotrity in some cases; but the consequence most to be apprehended is the occurrence of cystitis, which is said to be more frequent after percussion, from the bladder being injured either by the blows on the extremity of the instrument, or by the fragments being violently projected against its parietes at the moment the stone is broken. This last accident may also happen when pressure is employed, if the stone

be very hard. The liability to cystitis must also depend in great measure upon the size and nature of the stone, the constitution of the patient, the capacity of the bladder, or upon the pre-existence of a state of chronic irritation; though this complaint is sometimes much relieved after two or three sittings of lithotrity.

From whatever cause cystitis arise, it is a most unfortunate complication, frequently terminating in the death of the patient, either in consequence of the direct effects of the inflammation, or by inducing disease in the kidneys or other parts. It is not, however, of very frequent occurrence after lithotrity; and where, from peculiar circumstances, a predisposition to it exists, the stone should be broken by pressure if possible, in preference to percussion. The sittings should be short, and repeated only when all irritation has subsided, the patient being kept in the intervals at rest, upon a bland diet, and recommended to drink freely of mucilaginous drinks.

Another inconvenience to which lithotrity may give rise is the pinching or laceration of the mucous membrane of the bladder by the instruments, during the operation. This is, of course, an unpleasant accident, though it seldom happens in the living body, where the bladder can be kept properly distended with fluid; nor would it probably be attended with the evil consequences which some persons apprehend. It is more likely to happen with instruments for perforation than with those for percussion and crushing, as the hooks by which the branches terminate would be more apt to catch the membrane than the teeth of the branches of other instruments; but on the dead bladder, in consequence of its flaccid state, this accident not unfrequently occurs; and even in the living body, where there is difficulty in taking up small fragments, and where the mucous membrane is thickened, or its surface irregular, it would be very liable to be caught. This, however, would be indicated by the increased pain, which would prevent the operator from persevering in the attempt.

Having thus glanced at some of the principal inconveniences attendant upon lithotrity, I must not omit to allude, on the other hand, to some of those which lithotomy entails. The operation is one of the most painful and dangerous in surgery; and the difficulty of performing it is sometimes very great. It is often counterindicated by diseased states of the urinary organs, or of other viscera; and when performed under these circumstances, it offers very small chances of success; while, on the other hand, lithotrity might be practised with great prospect of advan-

tage. In the lateral operation the cutting instrument, especially the gorget, may not at first enter the bladder, or the incision at the neck of this viscus may not be sufficiently large to admit of the extraction of the stone without the employment of much force, and consequent bruising or laceration of the parts. On the other hand, if the incision be too large, it may give rise to urinary infiltration of the cellular texture—the rectum may be cut—hæmorrhage may take place to a dangerous extent, either from the division of arterial branches, or of the enlarged veins surrounding the neck of the bladder in old persons. Nervous symptoms of an alarming character, which so frequently supervene on serious operations, may endanger the patient's life, as may also fever, inflammation of the bladder, of the peritoneum, or of other viscera, should these unfortunate complications arise. These are the principal inconveniences and dangers to which lithotomy may give rise; though it is but right to add, they are not so likely to occur in young persons. From most of these consequences lithotrity, while presenting its peculiar disadvantages, is exempt.

The remarks that have been made respecting both operations refer more especially to the male sex, in whom operations for the stone are, for obvious reasons, so much more common than in females. Lithotomy in women, though not attended with the same difficulties and dangers as in men, is so frequently productive of consequences which tend to embitter the remainder of life, that the invention of lithotrity, by which, from the more simple anatomical structure of the female parts, lithotomy will probably be altogether superseded in women, must on their account alone, and exclusive of the advantage it is calculated to confer on male patients, be considered as a circumstance of the highest importance.

Several of the objections that have been made to lithotrity, and especially to the method by perforation, will not, of course, apply to cases of stone in females, in whom the introduction and action of straight instruments are attended with no difficulty.

The size and composition of the stone, and, if there be more than one, the number of them, are important circumstances to be considered, in guiding the judgment of the surgeon as to the applicability of lithotrity or lithotomy to particular cases. The calculi most frequently met with in the bladder are composed of uric acid, or urate of ammonia, of phosphate of lime, of the ammoniaco-magnesian phosphate, and of oxalate of lime; but they are very often of a mixed composition, such as a

nucleus of urate of ammonia, or of oxalate of lime, and a covering of the phosphates; or are composed of layers of phosphate and of urate of ammonia. The composition of stones may often be guessed by sounding and the examination of the urine, and is of great importance as regards lithotripsy, in determining their size, density, or friability. If it were ascertained that a calculus was of the phosphatic variety, it would be known that no difficulty would be experienced in breaking it down; and lithotripsy would be considered the most suitable method of removing it, should its employment not be counterindicated by other circumstances. On the other hand, should the calculus consist of oxalate of lime, which cannot sometimes be broken, or is broken with great difficulty, the fragments of which would be likely to injure the bladder, and would require the employment of much force to reduce them to portions sufficiently small to pass through the urethra, lithotomy would be preferred, if circumstances were favourable to its performance. The calculi, however, which are most frequently met with, are of various degrees of density between these two extremes. Many are of moderate hardness, and may be broken without difficulty by pressure. Some are harder at particular points than at others, and require the combination of percussion with pressure to break them. Others, though hard, are brittle, and cannot easily be broken by pressure without great force, but yield readily on percussion. Some stones, again, are much harder than others which have a similar composition, which may depend upon the proportion of the animal matter which binds the earthy parts together, upon the length of time the disease has existed, and upon other circumstances.

When, therefore, there is only one stone—when it is small, or of moderate size, and friable—when there exists no stricture or unusual curvature of the urethra—no enlargement of the prostate, or diseased state of the urinary organs—when the bladder is moderately capacious, and when the patient is not of a nervous and irritable disposition, the circumstances may be considered highly favourable for lithotripsy; whereas, if the stone be of large size, or excessively hard—if there be several stones in the bladder—if the urethra be unusually narrow, strictured, or excessively curved—if there be enlargement of the prostate, a contracted or diseased state of the bladder, or if the patient be of a highly irritable disposition, the performance of lithotripsy, if not altogether counterindicated, would be attended with more doubtful success. In those cases where, from loss of tone of the muscular coat, or complete paralysis of

the bladder, the patient labours under chronic retention of urine, lithotripsy would be performed under very unfavourable circumstances, as the fragments could neither be expelled, nor could they pass away through the catheter on the urine being drawn off. In such a case Weiss's scoop and catheter forceps would be of the greatest service, in enabling the operator to get rid of the fragments.

Chronic inflammation of the bladder, or catarrhus vesicæ, as it is termed, though an unfavourable complication, and often aggravated, is sometimes diminished after two or three sittings of lithotripsy, and even after the extraction of the foreign body by lithotomy. In this case lithotripsy by pressure would be the most preferable operation, if not counter-indicated by other circumstances.

In children, and young persons of the male sex below puberty, lithotomy is generally preferable to lithotripsy, which in these cases presents great inconveniences in consequence of the narrowness of the urethra. On this account the instruments are required to be of much slighter construction, and must necessarily be much weaker, while there would not be a proportionate friability of the calculus, which in young subjects is mostly of the uric acid or oxalate of lime varieties: hence the greater liability of fracture or displacement of the branches. On this account, also, more sittings would probably be required than in adults, as the fragments would require to be broken smaller to enable them to pass through the urethra. Another objection to lithotripsy in young subjects is the greater susceptibility of their nervous system, on which account the repeated introduction and manœuvring of instruments within the bladder would in many cases be likely to produce serious consequences. The diminished capacity of the bladder would also be another impediment to the success of lithotripsy in these cases. These drawbacks would induce most surgeons to prefer lithotomy, which is not attended with the same difficulties and dangers in young persons as in advanced life, but is frequently performed in two or three minutes, is successful in the great majority of cases, and does not expose the patients to a relapse, which may occur after lithotripsy, from the retention of a portion of the stone.

With respect to the absence from pain during lithotripsy, and the quickness with which a stone may be removed,—though it is true that where the stone is small and the other circumstances favourable, the patient may occasionally be relieved of his disease in one or two sittings with but little pain and without much interruption to his ordinary avocations,—yet these

cases are very rare in comparison with those which are attended with a greater degree of pain, which require several sittings, obliging the patient to confine himself to his room on a regulated diet and mucilaginous drinks in the interval, and in which the operation is succeeded by one or more of the unpleasant consequences of which I have made mention.

One great advantage attending the invention of lithotrity is, that patients who, from a natural horror of lithotomy, were frequently induced to resort to palliatives till the stone had acquired a considerable size, or till the irritation resulting from its presence had brought on a diseased state of the urinary organs, will, as lithotrity becomes more general, apply for relief at an earlier period of the disease, when the operation can be performed under the most favourable circumstances.

In the preceding remarks I have not pretended to enter into a full investigation of the superior applicability of lithotrity or lithotomy in the various cases met with in practice, but have briefly alluded to some of the more prominent indications for both operations; and having endeavoured to demonstrate that the performance of lithotrity is not attended with the great difficulties which many suppose, I conclude with the hope, that as this operation is eminently calculated to supersede lithotomy in many cases, the generality of English surgeons will not be behind their neighbours in adopting a means of relief which must be regarded as one of the most important discoveries in modern surgery.

OF THE BI-LATERAL OPERATION.

The recto-vesical and hypogastric operations have each been advocated by surgeons of eminence as the best method of extracting large stones from the bladder. The recto-vesical operation was more especially recommended by Vacca, in Italy, and by M. Sanson, in France; but the great liability of an incurable fistulous communication being established between the bladder and rectum, prevented its general adoption, and even obliged Vacca to abandon it in the latter years of his life; nor has it, I believe, been performed within the last few years by M. Sanson. The high operation has had more supporters both in this country and abroad, but the frequent occurrence of urinary infiltration in the pelvis, and of peritoneal inflammation, added to the impediments in the way of healing the wound in the bladder, gave rise to a fatal result in a large proportion of the patients on whom the operation was performed, and caused it to be restricted to cases in which the lateral operation was considered impracticable,

or, from the size of the stone or other circumstances, likely to be attended with great difficulty.

The dangerous consequences resulting from an extensive incision or laceration of the cellular texture about the neck of the bladder, in cases where the perineum is deep, have been strongly insisted upon by several surgeons of extensive practical experience, as being among the principal causes of failure of the lateral operation in advanced life. Chaussier first conceived the idea of avoiding these consequences by incising both sides of the neck of the bladder, so as to admit the extraction of calculi without the incision extending beyond the circumference of the prostate, or at all events without extensive lesion of the surrounding cellular texture. Beclard also acted upon this idea, and performed the bi-lateral operation several times. Dupuytren, during the latter years of his life, preferred it almost exclusively; and in consequence of the successful results which he was stated to have obtained, it was adopted by many French surgeons. Of seventy patients operated by this method at various periods at life, six only were said to have died; though in a table annexed to Dupuytren's work on the subject by the editors, it appears that of ninety-nine patients who were subjected to the bi-lateral operation, nineteen died, or nearly one in five, being a greater average mortality than that resulting from the lateral operation performed on persons of various ages, which, according to some extensive statistical data, amounted to one in six and a half. Of these ninety-nine patients fifty were under twenty years of age, consequently the perineum was not deep, and in many of them the stone was in all probability of small size; so that the lateral operation would appear to be more specially indicated in these cases, as the chief inconveniences which the bi-lateral operation is intended to prevent, viz. laceration or bruising of the parts in the extraction of large calculi, infiltration of urine in the cellular texture, most frequently occur in advanced life, where there is considerable depth of perineum. These results do not, therefore, detract from the value of the operation: they merely show that instead of employing it exclusively, discrimination is required in selecting the cases to which it is most applicable. This method is, in fact, an improvement on the operation of Celsus, or by the apparatus minor, as it was termed; and was regarded in this light by Dupuytren himself. In Celsus's operation one or two fingers were introduced into the rectum, to fix the stone at the neck of the bladder, which, with the perineum, was cut in a transverse direction upon the stone, with-

out any instrument being introduced into the urethra to serve as a guide. The dangers likely to result from this rude operation are too obvious to require that I should stop to enumerate them; I shall therefore proceed to describe the mode of performing the operation according to M. Dupuytren.

The staff should be of large size, so as to fill the urethra; more curved than usual, and the groove very wide and deep. The instrument for incising the neck of the bladder is a two-bladed lithotome, not unlike the bistouri caché of Frère Come; but on pressing the spring at the handle, instead of a blade starting out from the convex surface, as in Come's instrument, two blades start out from the sides, so as to describe the segment of a circle, increasing in proportion as the blades are pressed out. By means of a graduated scale and a small screw near the handle, the extent of the incision may be regulated according to the judgment of the operator, from ten to twenty-one lines.

The patient being placed in the same position as for the lateral operation, the staff should be held in a perpendicular direction, with its groove opposite to the centre of the perineum, by an assistant, who presses slightly upon the handle, so as to cause the curved portion to project, and enable the operator to feel it readily. An incision of a semicircular form is then made through the skin, commencing on the right side, midway between the tuberosity of the ischium and the anus, passing at the distance of six or eight lines anterior to this aperture, and terminating on the left side, at the point corresponding to that at which it began. The superficial perineal fascia, the cellular texture, and the anterior fibres of the sphincter externus ani, are divided in the same direction, the operator depressing the lower part of the wound with his left fore-finger, so as to prevent the rectum from being cut. The groove of the staff is then felt, and a longitudinal division, of a few lines extent, made into it, through the membranous portion of the urethra. The point of the lithotome is then introduced into the groove, the concavity of the instrument being directed upwards, and the operator taking the handle of the staff in his left hand, depresses it, while, with the right, he slides the lithotome along its groove into the bladder. The staff is then withdrawn, and the lithotome is turned round, so that its concavity, which was previously directed towards the pubis, is now directed downwards, or towards the rectum. The spring being pressed, the blades are protruded to the extent that has been previously regulated, and the instrument is withdrawn, not in the hori-

zontal direction, but by gradually depressing the handle, so that the incision of the neck of the bladder and prostate may correspond with that of the skin. The operator's left fore-finger is then passed into the bladder, to serve as a guide to the forceps, or the blunt gorget may be used for this purpose, and the stone is extracted as after the lateral operation. I will now perform the operation on the dead body, in the manner I have described.

The chief advantages of this operation may be stated in a few words. It is better adapted for the extraction of large calculi, especially in cases of deep perineum, than is the lateral operation; a way being made for the passage of the stone at the widest part of the inferior aperture of the pelvis. As the incision at the neck of the bladder would not, in most cases, extend beyond the circumference of the prostate, the risk of infiltration of urine in the cellular texture is much lessened. It exposes less than the lateral operation to the danger of wounding important arteries, though in the bilateral, as in the lateral operation, considerable bleeding may ensue from the division of the veins about the neck of the bladder. On the other hand, there is perhaps more likelihood than in the other operation of wounding the rectum, which is sometimes enlarged, in old people, so as almost to enclose the sides of the prostate gland. This accident, however, but seldom happens, and the probability of its occurrence may be diminished by the exhibition of an enema previous to the operation, and by the operator depressing the rectum with the fore-finger of his left hand in the wound while making the incisions: but even should it be cut, the wound would probably heal, in most instances, without trouble.

In those cases where the stone is so large as not to be extracted without the employment of an undue degree of force, it would be preferable, instead of enlarging the incision to a dangerous extent, to break it by means of the screw, or by percussion, the lithotrite being introduced into the bladder through the wound; thus combining lithotritry with lithotomy. I do not know whether this has as yet been done, though I see no reason why the two methods should not be combined in similar cases.

Before concluding, I am desirous to allude to the recent investigations of M. Chevallier, an eminent chemist in Paris, from which we may reasonably entertain the hope that the frequency of operations for the stone will hereafter be much diminished, and that the action of lithontriptic remedies is not so chimerical as has been imagined. M. Chevallier's experiments tend to demonstrate that calculi of

all kinds are more or less soluble, according to their composition, in certain fluids; especially some alkaline mineral waters, as those of Vichy; and he adduces numerous cases to prove that persons with stone have been cured by these waters, and by compositions of an analogous nature. As his memoir is published, I think it sufficient merely to allude to the subject; and it appears to me, from the results already obtained, that by more minutely investigating the chemical composition of urinary calculi, and the solvents which act upon them, than has been hitherto done, the most important and beneficial results may be anticipated.

AN EXPERIMENTAL INQUIRY
INTO THE
COMPARATIVE STATE OF UREA
IN HEALTHY AND DISEASED
URINE,
AND THE SEAT OF THE FORMATION OF
SUGAR IN DIABETES MELLITUS.

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[Concluded from page 224.]

DIABETES MELLITUS is of much more frequent occurrence than is generally supposed. There are physicians, in extensive practice too, who state that they have never met with a case of such a disease. Dr. Macintosh, of Edinburgh, for instance, mentions, in the first edition of his *Practice of Physic*, that such was the case with him. In private practice the disease may be of rare occurrence, but in hospitals the case is otherwise: in the Royal Infirmary of this city during the last seven years, five cases have been admitted on an average yearly, so that I must have seen no fewer than thirty-five cases of it. It occurs in individuals of all ages I believe. It has been noticed in a boy of three years of age. I have met with it in boys and girls of twelve years of age, and in men of fifty, though most of the patients were from twenty to forty. The disease is characterized by great thirst, a voracious appetite, dry skin, excessive flow of urine, having a sweet taste, a light-straw colour, a high specific gravity, and yielding, by evaporation, a considerable quantity of sugar. In order to procure

the sugar free from the salts in the urine, I have precipitated the most of them by sugar of lead, afterwards passed a stream of sulphuretted hydrogen gas through it, filtered it, and allowed it to evaporate spontaneously: I have thus been able to procure considerable quantities of sugar, regularly crystallized. I once formed a small loaf of sugar, but it unfortunately met with a mishap and was broken to pieces. Diabetic sugar, like grape sugar, ferments, and alcohol is formed: of the latter I have prepared considerable quantities. The quantity of urine passed is considerable: we have on record a case in which 70 pounds have been passed daily. The greatest quantity passed by any of the patient which I have met with was 45 pounds, and the highest sp. gr. was 1.054. It has been noticed by several, that the quantity of egesta or matters passed by urine and stool exceeded that of the ingesta or matters taken into the stomach. To account for this, it was averred that the surplus had been derived from the wasting of the body; but, upon weighing the individuals repeatedly, it was found that there was no loss of weight, consequently there could have been no derivation from this source. To the pulmonary absorption is now ascribed the source of this extraordinary balance. The researches of modern physiologists render it extremely probable that this superabundant quantity of fluid is absorbed by the lungs from the moisture of the atmosphere. Every sort of matter almost in the fluid or aeriform state, introduced into the cells of the lungs, is absorbed into the circulation, and, generally speaking, presents itself in the urine; turpentine, for instance, manifests itself there in a few minutes. Whether there be any cuticular absorption in this disease is a question: one thing, however, which amounts to a certainty, is this, that there is very little, if any, cutaneous exhalation, though diabetic patients have been occasionally seen to sweat.

Two diabetic patients, immediately after admission, were weighed, and their cases were examined in the following manner:—

J. Hamilton, aged 16 years, weighs five stones and two pounds; sp. gr. of urine 1.035. December 6, the ingesta amounted to liquid lbs. 13, solid lbs. 3, total 19—Egesta, liquid lbs. 18, solid 1, total 19. With the view of introducing

as much azote as possible into the system, a scruple of nitrate of ammonia was administered thrice a-day, and continued until the 19th, at which date the thirst had diminished considerably, and the quantity of urine was much less; but, whether in consequence of the animal food taken, (which is known to be one of the best palliatives in this disease,) or of the nitrate, is doubtful.

On the 22nd, six drops of créosote were ordered to be taken in the course of the day; the dose was gradually augmented, and on the 10th of January amounted to 60 drops, which now caused such a degree of irritation in the stomach as rendered it necessary to stop them.—At this time Jan. 10th, the ingesta were, liquid, 10 lbs.; solid, 2 lbs. 9 ozs.; total, 12 lbs. 9 ozs.—Egesta; liquid, 10 lbs. 4 ozs.

On the 16th of January, opium was ordered in grain doses thrice a-day; after a few days the dose was daily increased, and, on the 31st of January, the quantity amounted to half a-dram daily, at which time the ingesta were, liquid, 2 lbs.; solid, 1 lb. 9 ozs.; total, 3 lbs. 9 ozs.—Egesta; liquid, 2 lbs. 1 oz.

The urine was now strongly alkaline, contained carbonate of ammonia with no urea. It is probable that the urea was converted into carbonate of ammonia in the bladder. He sweated copiously, and his weight was found to be 5 stones and 4 lbs., or 2 lbs. more than at former weighing.

The opium was gradually increased, and, on the 24th of February, amounted to a dram in the course of 24 hours. The symptoms, described as the usual attendants of opium eating, presented themselves in this case, and continued during its administration.

At the above-mentioned date, the daily quantity of urine was reduced to little more than three pounds; the sp. gr. however, remained as high as 1.032; the taste was neutral, though it still contained a considerable quantity of sugar. The urea was so abundant that the addition of nitric acid caused the spontaneous crystallization of nitrate of urea within ten minutes.

The opium was discontinued during the last three days of the month, when the thirst increased, and along with it the quantity of urine. March 31: ingesta; liquid, 7 lbs.; solid, 2 lbs. 6 ozs.; total, 9 lbs. 6 ozs.—Egesta; liquid, 8 lbs. 2 ozs.

From the preceding statement it will be seen that, while the disease is unchecked, the aggregate of solid and liquid egesta considerably exceeds that of the ingesta, while, at the same time, there is no diminution of corporeal weight.

On the other hand, after the disease has been palliated by opium, &c. the ingesta exceed the sensible egesta.

The difference here may be explained by taking the perspired matter, (which, during the administration of the opium, was considerable,) into account.

Towards the end of the month the opium was gradually discontinued, and gave place to a return of the original symptoms. Shortly after this he was dismissed with the following symptoms: The quantity of urine passed was 8 lbs.; it had a saccharine taste, and fermented strongly with yeast. Urea was readily detected after the destruction of the sugar.

Shortly before dismissal he began to complain of pleuritic stitches, which continued to increase, and carried him off soon after. At the end of March his weight was 5 stones and 3 lbs.

CASE II.—M'Phail was re-admitted with all the symptoms of diabetes mellitus; passes from 20 to 30 lbs. of urine in the course of the day, of a sweet taste, pale straw-colour, and of a sp. gr. as high as 1.040. On the addition of yeast it fermented strongly, its sp. gr. was reduced to 1.004, and afforded urea in abundance. He drank from 12 to 20 lbs. of water daily, and his appetite was voracious. His ingesta and egesta were examined, as in Hamilton's case, during the greater part of November 1834, during which time he underwent but little treatment, and the results were similar. M'Phail's egesta considerably exceeded his ingesta. Early in December he was put upon créosote, commencing with six drops daily. The créosote was continued until the 13th, when the daily quantity amounted to 40 drops. Ingesta; liquid, 4 lbs.; solid, 9 ozs.; total, 4 lbs. 9 ozs.—Egesta; liquid, 2 lbs.; solid, 1 lb. 3 ozs.; total, 3 lbs. 3 ozs. His weight was 5 stones and 12 lbs.

From the above it is seen that the symptoms have materially improved; but I am led to believe that the animal diet, upon which the patient was fed, contributed more to effect this than the créosote.

I have repeatedly seen diabetic patients

improve as rapidly under animal diet alone, as under any other palliative.

Soon after the discontinuance of the créosote, he was ordered to take opium, which was continued during the months of January, February, and greater part of March.

During the last part of December, and first part of January, vegetable diet was substituted for the animal diet.

This change gave rise to an aggravation of the disease, which continued until the commencement of the opium treatment.

Immediately after the substitution of the opium, symptoms ameliorated. As in our former case the increase of dose progressed steadily.

On the 23rd, his urine was highly alkaline, contained a considerable quantity of carbonate of ammonia, with no urea. Sp. gr. of urine was 1.044. He sweated copiously, and felt all the usual concomitants of opium eating. At this date the daily quantity of opium amounted to 2 scruples. Ingesta; liquid, 4 lbs.; solid, 1 lb. 9 ozs.; total, 5 lbs. 9 ozs.—Egesta; liquid, 3 lbs. 6 ozs.; solid, 1 lb. 1 oz.; total, 4 lbs. 7 ozs.

On the 31st, the carbonate of ammonia in urine disappeared, and was succeeded by a copious quantity of urea.

It is singular that, at a particular stage in both cases, the production of urea was so abundant as to cause a decomposition of itself in the bladder before evacuation.

On the 28th of February, he weighed exactly 5 stones and 12 lbs. The sp. gr. of his urine was as high as 1.054, and the urea was very abundant. The daily amount of opium consumed was 1 dram and 2 grains. Ingesta; liquid, 4 lbs.; solid, 1 lb. 9 ozs.; total, 5 lbs. 9 ozs.—Egesta; liquid, 3 lbs. 1 oz. He felt as in ordinary health, with the exception of drowsiness, and the extreme dreams consequent upon the opium taking.

In the early part of the disease, or at least soon after admission, his teeth felt sour as after eating apples. This led me to examine his saliva, a quantity of which I collected, filtered, evaporated to a certain consistence and treated with yeast. It fermented very strongly, thus proving the existence of sugar in it.

During March, he continued to increase the dose of opium, which at the end of the month amounted to 90 grains daily. He passed at this date two

pounds and a half of urine, ate a pound and three quarters, drank two pounds, and he sweated considerably. The drowsiness, which at one time distressed him much, was now abating, and he seemed cheerful. The urine had a sp. gr. above 1.030, a saline taste, an acid reaction, and an urinous smell. The urea was very abundant; and crystallized with nitric acid in less than ten minutes after the addition of the acid; notwithstanding the favourable appearance of the urine, it still contained a sensible quantity of sugar. It fermented very strongly on the addition of yeast. The opium was gradually reduced during April to a few grains daily. After the reduction he failed rapidly, his diabetic symptoms increased, and he was carried off soon after by a pleuritic attack.

After seeing several post-mortem examinations of such patients, and observing nothing materially at fault in the kidneys, I began to think, with several, that the digestive organs were directly concerned in the disease, and that the kidneys were but secondarily affected.

In order to ascertain whether sugar was formed in the stomachs of diabetic patients, I administered an emetic to one of them three hours after a dinner of animo-vegetable diet. From the stomach was ejected a mixture of half-digested solids with a considerable quantity of liquids. The whole was heated for a short time in an evaporating basin, and filtered; the residue on filter was washed with warm water, and the filtered liquor was evaporated on a steam bath to a sp. gr. of 1.060. To a portion of the concentrated liquor yeast was added, at a temperature of 70° F.; fermentation soon commenced, and went on briskly for twelve hours. From this experiment, there could be no doubt of the existence of sugar in the vomited matters. Repeated trials in other cases gave similar results. It may be said that the sugar present in these cases was not the result of the digestive action, but had been introduced in the vegetable part of the diet of the patients, and that such a result might be expected in healthy stomachs into which vegetables were introduced, and that Tiedemann and Gmelin, in their researches, detected sugar in the stomachs of the inferior animals. To a healthy individual who had dined three hours previously, I administered a scruple of sulphate of zinc, which produced copious vomiting; the ejected matter

was treated in the above manner, and was found to ferment very strongly; thus showing that in health we have sugar present in the stomach; but whether it is introduced in the vegetables constituting a portion of our meals, or is the result of the digestive action, remains a question. The latter experiment was several times repeated, and with results such as the first obtained. With the view of settling this doubt, a healthy man (to whom a scruple of sulphate of zinc was administered, which produced full vomiting, and immediately afterwards a purgative) was fed upon roasted beef and water exclusively for three successive days. At the end of this period, and three hours after his meal, a second emetic was given. The vomited matters were treated as above, but gave no signs of fermentation: thus showing that in healthy individuals, fed upon animal diet, we have no evidence of sugar being found in the stomach, while in similar individuals, fed upon vegetables, we have ample proofs of its existence there. The likelihood is, that it must have been introduced in the vegetables. The last experiment was repeated upon a second healthy individual, and gave a similar result.

A diabetic patient, immediately after admission into the hospital, was vomited with two scruples of sulphate of zinc: the rejected matter was treated as above, and found to ferment. After the emetic he was liberally fed upon roast beef and water exclusively for three days. At the end of this period, and four hours after his meal, a second emetic was given, which acted freely; the vomited matter was subjected to the same process as above. The fermentation which ensued was pretty brisk, though much less so than in the former trials. It continued for nine hours. A repeated trial in the same case gave a similar result, and the same mode of experimenting in a second case of diabetes confirmed it. From such we would be led to infer that, in diabetes mellitus, the seat of the formation of sugar is the digestive organs, and not the kidneys, as has been alleged by many.

The next step was to ascertain if the presence of sugar could be detected in any of the other liquids of the body.

A diabetic patient was bled seven times to a pound each time: the operations were done at intervals of three days, and the patient stood this treat-

ment remarkably well. In fact he declared himself much improved.

The blood, curious to say, was strongly cupped in the first bleedings, but shewed no symptoms of buffiness. The serum had a milky appearance, and quite distinct from that of healthy blood. Forty-eight hours after each bleeding the serum was carefully drawn off from the clot. Its sp. gr. was 1.033 on an average, and its taste slightly saline. The average sp. gr. of healthy serum is 1.029, while its taste is strongly saline. The diabetic serum was coagulated by heat, and carefully dried on a steam bath. The solid clot now formed was divided as minutely as possible by a pair of scissors, and boiled in water; it was then filtered through paper, and evaporated to a certain extent. The concentrated liquid, on the addition of yeast, fermented strongly for several hours. Successive portions of the blood were similarly treated, and gave results exactly the same. The blood of several other diabetic patients was also examined, and found to agree with the preceding.

I have no doubt but that sugar exists largely in blood; the albumen which exists so abundantly in the serum of blood serves to screen the sugar from the action of the water employed in extracting it, and may account for the failures of Marcet and Wollaston. Two cases are mentioned, in the LONDON MEDICAL GAZETTE, in which sugar has been detected in the blood, one by Felix Abrosiani, of Milan, the second by Charles Maitland, Esq. The diabetes seems to have been well marked in both cases. The steps of both processes differed but little. The serum was poured off from the clot and heated; the albumen is said to have coagulated and separated from the liquid, which was of a dark colour. To the latter acetate of lead was added, which produced a precipitate of salts of lead and colouring matter; the excess of lead was now removed by a stream of sulphuretted hydrogen, and the supernatant liquor was purified by liquid albumen. As the albumen coagulated, the liquor separated into a clear colourless liquid, and a dark flocculent insoluble matter. The fluid portion, he says, "when boiled slowly, threw up a syrupy scum, and assumed all the characters of a perfect syrup. Left at rest for a few weeks, small colourless crystals were formed in it, of a prismatic form, with a rhomboidal base, modified at the angle

and apices, in every respect resembling a perfect sugar. The uncrystallized syrup, at about 80° F. mixed with a little yeast, exhibited a decided vinous fermentation. The quantity of syrup obtained from one pound of blood was about an ounce; the crystals weighed two grains." I have been able to detect a trace of sugar even in the blood of healthy individuals when fed upon vegetable diet.

From finding sugar in the blood of diabetic individuals, I was led to examine the other liquids, such as the saliva, liquid of stools, and sweat. Diabetic patients' teeth often feel as if after exposure to acids or sugar. This of itself would lead us to conclude that the saliva contained sugar. Six ounces of saliva were collected, filtered through paper, and evaporated to one-fourth; it was now introduced into a two-ounce vial, and a dram of yeast was added, which, in a short time, caused a brisk and satisfactory fermentation, thus clearly proving the existence of sugar in the saliva. As in the preceding cases, the experiment was repeated more than once. In some of them only, however, did it succeed. I never could get the sweat to ferment; it was collected by the application of a sponge. A quantity of stools of one of the patients (M'Phail) was kept, and allowed to dry spontaneously: after the lapse of some time crystals of sugar began to show themselves, and became quite distinct; thus showing that sugar is in such cases passed by stool.

No urine was passed into the vessel which received the stool, so that the sugar formed on its surface could have had no connexion with the urinary organs. The specimen is still entire, though more than a twelvemonth old. Yeast was administered in ounce doses, after each meal, to two of such patients, but was soon discontinued, because, to use their own expression, "they were on the eve of being blown up."

From the preceding experiments, it may be inferred, 1st, That we know of no disease characterized by the absence of urea; though in some the quantity of it is, in common with some of the other ingredients, diminished.

2nd, That the quantity of urea is quite independent of that of the sugar; the former increases, not by reason of the disappearance of the latter, but because the patient has been put upon liberal doses of animal diet, opium, or some

other powerful palliative, which checks the excessive thirst, and thus concentrates the urine. In the case of the healthy individual who was fed upon animal food and water exclusively for three days, the quantity of urea passed more than doubled the natural diurnal amount, showing that large quantities of animal food increase the urea proportionally. Opium has a similar effect, both in health and diabetes. In the diabetic individual, who was similarly treated for three days, the urea crystallized readily on the addition of nitric acid, notwithstanding the presence of a large quantity of sugar.

3rd, That in diabetes, the quantity of urea is materially increased, in consequence of the greater quantity of food introduced into the stomach, either vegetable or animal.

In the urine of herbivorous animals, we have a goodly proportion of urea. In one specimen, of that of a cow, I found 3.2 per cent. of urea.

4th, That the sugar is formed in the digestive organs, and that the kidney is a mere outlet in common with the other excretory organs of the body.

And, lastly, that it is readily discoverable in the blood, saliva, and stool of diabetic patients, and even in the blood of healthy persons who indulge in vegetables.

CASE OF CEPHALŒA,

FROM A TUBERCLE IMBEDDED IN THE CEREBELLUM.

To the Editor of the Medical Gazette.

SIR,

I AM induced to send the following case to you, thinking that it may convey at least an useful hint; and shall be obliged, provided you consider it of sufficient interest, if you will give it admission in the MEDICAL GAZETTE.

I am, sir,

Your obedient servant,

RICHARD JEFFREYS,
Surgeon.

Wisbeach, May 5, 1837.

Notwithstanding the zeal and ability displayed of late by pathological inquirers, and the additional light their labours have thrown on morbid anatomy, there certainly remains an inexplicable

discrepancy, in many instances, between the symptoms of diseased brain and the subsequent evidence of dissection. Medical men occasionally witness, for example, the most violent symptoms of cerebral disease, without being able, after death, to detect any corresponding lesion; whilst autopsy not unfrequently leads to the discovery of extensive organic changes, of which there had been no suspicion during life, or not until the near approach of death: hence they are exposed, not only to unavoidable mistakes as regards diagnosis, but, under particular circumstances, are apt even to doubt the reality of the symptoms as described to them by the patient. Whatever ground of suspicion, however, may exist, as to the probability of deception, more especially in our attendance upon paupers, it is our duty first carefully to weigh the symptoms, and then, if any doubt remains, to hold to the side of humanity.

Emanuel Eldridge, aged 19 years, a seafaring man, was admitted into the Elm Workhouse on the 29th January last, where he worked at the treadmill until the 12th February, when I first saw him as a patient.

He complained of pain in the head (especially in the fore part of it), which he said was sometimes severe and sometimes absent for a day or two, but the intervals were irregular. Except a little quickness of the pulse and a trifling degree of whiteness of the tongue, he had no febrile symptoms.

20th.—Says he is much the same. Another invalid, a young man named Elsam, had all along occupied the same bed, whose illness was evidently not of a serious nature. I told the master of the house that I suspected the latter was imposing upon us, and perhaps the former. Their indulgences being consequently discontinued, Elsam the following morning went to work.

22d.—Eldridge persisted in stating that if he got up the pain in his head always recurred, or was aggravated. Believing now his symptoms to be real, though not alarming, I questioned him more closely; and he said he had felt a similar pain about two years before, when he became a patient on board the Dreadnought, off Greenwich, for two or three weeks, and was much relieved. He did not remember having received any injury of the head, excepting one from a fall upon a stone when a boy,

which was considered a trivial accident. The intellect, as well as the organs of sense and motion, were unaffected; sleep natural; bowels regular, or easily acted upon by medicine; urine healthy; no thirst; appetite not deficient; pulse 96; tongue rather white; complexion rather ruddy.

April 1st.—The pain was increased, and is more constant; it was situated more in the back of the head and neck, and was much aggravated by raising the head from the pillow. The patient was evidently emaciating, yet occasionally cheerful. After this time he became rapidly worse.

9th.—I requested Dr. Whitsed to visit the patient with me to-day, and he has allowed me to copy the following observations from his notes of the case: "Pulse 110, and rather small; pupils much dilated, but contracted slightly on the approach of a lighted candle; tongue white; skin harsh and dry; complexion pallid; body attenuated. Any attempt to raise the head seemed to occasion much torture, which was referred to the neck and region of the occiput. Could not detect any tenderness in tracing the spinal column. Intellect and power of motion unimpaired, excepting that the muscles of the neck appeared to be rigid." Head shaved, and a large blister applied to the scalp.

Digitalis, with Vin. Antim. &c.

12th.—He slept well last night. When eating his breakfast this morning he was cheerful, and accused one of the inmates of stealing some of his bread whilst he was asleep. About five this afternoon he died—the master believes in a convulsion.

Post-mortem examination, April 13th.—On raising the calvarium, the bone appeared to be uninjured, and it had no unusual adhesion to the dura mater. This membrane was turgid, and in tracing the longitudinal sinus from before backward, the turgescence increased. The inner meninges also appeared injected, but I could not perceive any infiltration between them. I made an incision across the anterior lobe of each hemisphere into the lateral ventricles (as directed by Martinet), from which I collected about two ounces of serum, and then sliced off the substance of the cerebellum, without detecting any change of its natural colour or consistence. The plexus choroides, and

the lining of the ventricles generally, were very vascular. On viewing the tentorium, there was an evident elevation of its left side: I removed this membrane, and found that the left lobe of the cerebellum was much larger than the right, and that it was the seat of disease.

The cerebellum was very vascular on its surface: on cutting into the enlarged lobe I divided a globular tubercle of about an inch in diameter; it was of firmer consistence than brain, and the colour of diluted citrine ointment, but was perfectly unorganized. The substance of the cerebellum immediately surrounding the tubercle was unnaturally soft, of the consistence of custard, especially on the side nearest the bone. In the centre of the tubercle was a minute cavity, which looked as if it had once contained a small coagulum, and which perhaps had formed the original nucleus of the disease.

I regret that I had not time to open the trunk, and on the following day the body was interred.

LARYNGITIS AND TRACHEOTOMY.

To the Editor of the Medical Gazette.

SIR,

MAY I request the insertion of the subjoined case, if you conceive it possesses sufficient interest to appear in your valuable journal.

John Cox, ætat. 23, a waterman, residing in this town, has felt his health impaired for some weeks past, in consequence of several hours' exposure during the severe weather about Christmas last: for the last fortnight his indisposition has increased, but still, hoping to get better, no application was made for medical relief.

April 13th, I was requested to visit him: he was confined to bed, complained of his throat, which on inspection appeared slightly inflamed. There was lassitude, with pains of the limbs, partial thirst, and slightly-coated tongue; pulse feeble, about 80. I prescribed five grains of calomel, and three of pulv. Jacobi, to be taken directly, and followed by a common aperient draught; and some diaphoretic medicines to de-

termine to his skin. On the next day he appeared rather better; still complains of his throat, which appears much as the day previously, that is, general diffused redness, with scarcely any swelling, and no ulcerations: I advised him to continue the same medicines, and to apply a blister at bed-time, should the throat continue painful.

It appears that a short time after I left him, 11 A.M., he was attacked with what his parents described as a harsh cough, with a sharp whistling noise, but which they thought of no importance; these symptoms, however, continued to increase, attended with much difficulty of breathing, but of which they never apprized me, from, as they said, "an unwillingness to give trouble," until about 4 o'clock next morning, when they became much alarmed by the extreme difficulty of breathing, and sent for me. As soon as I entered the house I could hear the horrible croupy cough and whistle; his countenance was becoming livid, and his respiration terribly oppressed. I instantly made a large orifice in his arm, from which the blood flowed pretty freely, but the respiration became every moment more embarrassed, the countenance more livid, and before I obtained 10 ounces, respiration had become entirely obstructed; he seemed suffocated: his parents cried "He is gone!" I immediately resolved to perform tracheotomy. I had no assistance; the father I sent to our surgery for trachea-tubes, &c. The mother (the only person now with me) was, from terror and distress, unable even to hold the candle. I placed it, however, on the chest, and removing the blister, proceeded carefully, yet rapidly, through this operation. I succeeded with the loss of very little blood, and divided the two or three first rings of the trachea longitudinally. As soon as I opened the trachea there was a rush of air through it, and some little time after an attempt at respiration, which, though at first with fearfully long intermissions, soon increased in frequency, the lividity of countenance disappearing with each respiratory effort. I had some difficulty in keeping the soft parts away from the aperture, and with a pair of dressing forceps having the blades a little apart, I was enabled to keep the opening in the trachea patent. By the time the trachea-tubes arrived, breathing had become fairly established, and I was

enabled to introduce a middle sized one without much inconvenience.

11 o'clock.—He has had two motions, on which occasions he got out of bed, and his intelligence returns: I have commenced the free administration of calomel and opium.

7 P.M.—Complains of soreness of the chest; respiration goes on freely through the tube; tongue coated with a brown dry fur; skin hot and dry; pulse quick: a dozen leeches were applied to the anterior part of the chest, and saline diaphoretics with antimonials were prescribed in addition to the calomel and opium. It is unnecessary to give all the details of treatment in this interesting case: after a few days the trachea-tube was withdrawn; respiration was performed partly through the artificial opening: slight sloughing disposition of the wound, with erysipelatous redness over the chest and neighbourhood of the opening, were promptly and successfully met. About the tenth day he was put on quinine, with a liberal diet; his health daily improves, and the wound is almost healed.

I would just observe, that I was not a little surprised to find the muscles of respiration begin to resume their operations without any artificial respiration having been used: certainly I should think, from five to ten minutes must have elapsed from the suspension of respiration, until I could make the opening into the trachea. It is also deserving of remark, that so completely had consciousness been suspended, that the man up to the present has no recollection of the operation or of any of the circumstances immediately preceding or succeeding. This important case strongly indicates the necessity of clear anatomical knowledge, with coolness and steadiness of hand and head: most of the operations which a surgeon is called upon to perform will admit of time to refer to authorities, to consult plates or preparations, or to reflect on the anatomical relation of the parts, and the best mode of operating, but such cases as the above admit of no hesitation; a few minutes spent in *making preparation* would effectually seal the doom of the patient. Very little assistance, and few instruments, are requisite. I had not even a person to hold the candle—a good scalpel and a trachea-tube, (Liston's) or a piece of folded card, are all the instruments I conceive re-

quisite. The nail of the forefinger of the left hand will be found a very useful instrument on these occasions.

Hoping that this case may prove interesting and encouraging to young surgeons,—I am, sir,

Your obedient servant,

JOHN ARMSTRONG.

Gravesend,
May 9th, 1837.

CASE IN WHICH
SEVEN HALF-CROWNS HAD BEEN
SWALLOWED.

To the Editor of the Medical Gazette.

SIR,

THE following curious case occurred last week in the House of Correction: from its singularity you may, perhaps, think it worthy of being recorded in the MEDICAL GAZETTE.

Twenty months ago, a man of the name of Seeley was sentenced to three years' imprisonment in the House of Correction. On the day of his admission, (under the apprehension, I believe, of the money he had in his possession being taken from him,) he swallowed seven half-crowns. Shortly afterwards, alarmed at his rash act, he mentioned the circumstance to one of the turnkeys, who, however, gave no credit to the tale; and in a few days, feeling no inconvenience, and concluding the pieces of money had passed with his motions, the affair was forgotten. About a fortnight ago this man complained to me of sickness and slight bowel complaint, with general tenderness over the abdomen; for which he was removed into the Infirmary, and I prescribed some small doses of mercurial medicine, with Dover's powder, on the fifth day; and while under this treatment, to his great astonishment, the seven half-crowns fell clattering in one motion into the close-stool pan, having been retained in the intestinal canal upwards of twenty calendar months. Their colour was perfectly black; but upon examining them very carefully no loss of substance could be discovered.—I remain, sir,

Your obedient servant,

H. WAKEFIELD.

Lansdowne Place, May 15, 1837.

ON THE CHEMICAL EXAMINATION OF THE ATMOSPHERE.

To the Editor of the Medical Gazette.

SIR,

BEING engaged in the collection of the casual ingredients diffused through the atmosphere, which have hitherto, by the minuteness of their proportions, generally baffled chemical investigation, I wish to suggest a similar mode of proceeding in the wards of hospitals and other sick rooms, in diseases of certain or doubtful infectious character.

Water is always diffused in the atmosphere, in proportion more or less minute, and precipitates, when the air is sufficiently cooled, in the form of dew. Minute particles of solid matter suspended in the air, vapours diffused through it, and even gases which have strong affinity for water, are likely to come down with this aqueous precipitate; and, accordingly, visitors to infectious or unwholesome localities are generally cautioned to avoid the evening dews. By collecting this we may therefore expect to condense, in an ounce phial, the casual infectious ingredients of a great volume of air, in combination with distilled water, and therefore in a state well adapted to chemical examination. And this collection is much facilitated by suspending, over a glass funnel and phial, a body cooled much below the temperature of the air—as a large glass bottle, containing a refrigerating mixture. A gallon bottle, with 1° nitre, as much sal ammoniac, and filled with water, would condense enough, in a ward pretty fully occupied by patients, for one examination; and if larger quantities be required, it would be only to renew the cooling mixture when its temperature approached that of the room.

A yet more effectual method, where practicable without suffering to the patient, is causing his respiration (but not his inspiration) to pass through a two-necked bottle, suitably fitted with tubes, and plunged into a cooling mixture; by which the condensible matter would be arrested before it had become diffused in the atmosphere of the room.

But as infectious or unwholesome impregnations may exist in the atmosphere which have no great affinity for

water, re-agents of more energy may be exposed in their strata to condense these. The refreshing effects of acid fumigations (even acetic acid, which is little likely to produce or undergo decomposition) would seem to indicate an alkaliescent quality in the infectious or oppressive vapour. The suspended bottle might be washed over, as lightly as possible, with this acid concentrated; or, what would be more convenient, with a boiling saturated solution of oxalic acid, which should crystallize and dry on the surface before the cooling mixture was put in. This would redissolve in the condensed vapour, and carry with it all alkaliescent or electropositive impregnations. There is, however, one advantage in the acetic acid, that its volatile property would occasion its action to reach a little beyond the surface on which it is applied: experiment must show which answers best. Either of them would be applicable, in the two-necked bottle, for condensing individual respiration. When alkaline re-agents are required, soda (nearly caustic) would probably be the most eligible; and a little ammonia might be added, where it is desirable to extend the action a little beyond the cooled surface.

For gases, more remarkable for odour than for energy of combination, which are not unlikely sometimes to have their share in the propagation of disease, charcoal may be exposed. I use it broken into fragments not exceeding one-eighth of an inch thick, and a quarter of an inch in the other dimensions; heated red immediately before exposure. In sick rooms, it should be brought in still hot, but covered, to prevent combustion, and laid out when cold, quite thin, upon a clean cloth, kept in the room: the cloth should be stretched by the corners on the four legs of a stool, or other temporary frame, to give as much exposure as possible.

The dew, or condensed respiration, may be examined as follows:—

1. The odour.
2. The taste.
3. The specific gravity, if there be any considerable taste or odour.
4. Test papers, turmeric and litmus.
5. The microscope.
6. Aquatic insects, or animalculæ in vegetable infusions, as water in which flowers have been long standing; to try its effects on animal life. If remarka-

ble, the experiment may be made on larger animals; and perhaps this should be done in some cases, where cold-blooded animalculæ are not injured by it.

7. Alcohol.

8. Æther.

9. Nitrate of silver, and other tests which must vary with circumstances.

10. Heat, and collecting any disengaged gas for separate examination over mercury.

I must here confess, that in dew collected in the *open air* I have hitherto found only pure water, except the air containing an excess of oxygen, which it contains; but this is not surprising, as there has been nothing to indicate any casual ingredients, influential on health or other circumstances, during the short time my experiments have been in progress.

The acid or alkaline collections, being first examined with the microscope, may be carefully neutralized, separated into portions soluble in æther, alcohol, and water, and then submitted to tests. The acid or alkaline reagent should also be supersaturated, and the atmospheric impregnation drawn off by distillation, either in combination with water or alcohol, or as gas, according to circumstances.

The charcoal may be put into a retort which it nearly fills, and which should have a short small neck. This should be connected with the mercurial trough by a narrow bent adapter, so that any moisture which comes over may be condensed in the bend. The retort should be placed in sand, and very gradually heated till the bottom of the sand bath begins to redden. The liquid may be tested as the dew, or even mixed with it for examination, and the gas subjected to endiometrical and other appropriate tests.

I do not expect, from this mode of proceeding, any *immediate* decisive results. The object is concentration of the casual impregnations of the atmosphere, in small compass, suited for chemical investigation, which has certainly hitherto not done its part in this branch of physics. The improvement of the modes of operation, and the suggestion of new ones, may be left to time and practice. The present paper applies only to sick rooms; for detecting the influential casual ingredients of the *external air*, means of more delicacy

may be often requisite, some of which will be noticed elsewhere.—I am, sir,

Your obedient servant,

J. PRIDEAUX.

Plymouth, May 8, 1837.

MEDICAL GAZETTE.

Saturday, May 20, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

ON MILITARY PUNISHMENTS AND OTHER TORTURES.

IN turning over old books, every one must occasionally have been struck with the plain matter-of-fact way in which an odd theory, or still stranger practice, is set forth by some quaint writer, as if it was the most natural and necessary thing in the world. A familiar instance, which has often been quoted of late, occurs in “The Grand Concern of England,” a pamphlet published 150 years ago, where the author, with a gravity worthy of Swift, dilates upon the evils to be apprehended from the establishment of stage-coaches. Before these coaches were set up, says the *laudator temporis acti*, travellers rode on horseback, and in two or three journeys their hats and clothes were wont to be spoiled: thus they were forced to have new ones very often, to the immense benefit of trade. The great curiosity of the treatise consists in the utter simplicity and unconsciousness with which all the evils of the previously existing system are dwelt upon, as if they were so many advantages, and every improvement is considered as something to be prohibited, or at most only connived at, or tolerated, but never encouraged.

A more painful instance, belonging in some measure to the same class, is to be met with in Schlegel’s collection of dissertations on subjects belonging to

forensic medicine*. It is a thesis, by P. I. Hartmann, on the medical valuation of tortures, chiefly, as he says, of those practised in Saxony and Brunswick-Luneburg, which he describes in the most quiet business-like manner, both in their legitimate and illegitimate modes of application. Thus he tells us that in Saxon courts of *justice*, tortures are regularly divided into three degrees,—the first consisting of the application of the thumb-screws, and the commencement of the application of the cords (*fidiculæ*); in the second, the accused is stretched upon the rack, and the Spanish boots are applied to the calves of his legs; the third degree is when fire is applied to the suspected person in the situation just given. The author is extremely minute as to the regular and irregular modes of inflicting all these torments: thus the thumb-screws are not to crush the bone, and the *fidiculæ* are not to cut through the flesh; but, he says, that through the cruelty or inconsiderateness of the hangman, such things sometimes happen. Altogether, in spite of the coolness with which he describes these horrors, Peter Immanuel Hartmann shows certain inklings of humanity,—not very great ones, to be sure; but we must recollect the period when he wrote, and allow that he had his fair share of the philanthropy of 1762. Thus in his proëmium he rather doubts of the justice of tortures; he often insists on these practices not being carried to such an extent as to disqualify the tortured from getting their living; and he congratulates himself on some tortures having never been used in German courts of justice, or having become obsolete†.

In applying the cords the cuticle

* Collectio opusculorum selectorum ad medicinam forensem spectantium, curante Dr. Joan. Christ. Traugott Schlegel. Lipsiæ, 1784—1789.

† Such are, he says, the “*suspensio reorum ex mammis aut pudendis, immissio in taurum æneum lento igne excalefactum, extortæ per continuam quassationem vigiliæ,*” &c. &c.

only is to be torn, not the true skin; whence it appears, he adds, that the operator must exhibit the utmost circumspection, and have the finest judgment in estimating the constitution of the persons to be tortured.

Now it has been justly observed, that the talk of some well-meaning but mistaken persons against rail-roads is exactly in the same style, *mutatis mutandis*, as the queer objections against stage-coaches put forth in “The Grand Concern of England,” by the “*Lover of his Country* ;” and, in like manner, the way in which certain disciplinarians extol the benefits that flow from military flogging is a rather gross parody on honest Peter Immanuel Hartmann. We are speaking, of course, chiefly of the disciplinarians of the old school, the men of a thousand—lashes. It appears to have been the custom to sentence the soldier to a number of lashes, which no human being could possibly sustain, in order, as it would seem, to avoid the lamentable mischance of a man’s being sentenced to a lash less than he *could* bear. The surgeon stood by, and it was his office to ascertain the utmost limits of human endurance; so that we may apply to him what Hartmann says of a less refined personage, and the passage will run thus—“whence it appears that the *surgeon* must exhibit the utmost circumspection, and have the finest judgment in estimating the constitution of the persons to be tortured.”

The number of lashes has indeed been diminished of late years, but still remains so enormous, that military men, horror-struck at their infliction, have rushed into another error, and adopting the usual routine of falling upon Scylla when you shun Charybdis, have adopted the shocking alternative of long periods of solitary imprisonment, with a bread-and-water diet. What the effects of this cruel punishment are, at least in India, appears from a sensible pamphlet

by Mr. Malcolmson, now before us*. He says—

“ I must first of all state, that I am no advocate for corporal punishment; and that I am satisfied, that, in most cases, it is not effective in preventing military crime. Yet, while feeling so strongly on this subject, that a fear of strengthening the hands of the advocates of corporal punishment, for other than disgraceful crimes, and such as are committed on actual service, has deterred me from laying these remarks before the public longer than, perhaps, I ought; I cannot shut my eyes to the fact, that at the present time the danger is of another kind, and that it is to be feared that the anxiety to escape the revolting spectacle, or report, of flogging, will lead to the substitution of punishments which the victims will find incomparably more cruel and destructive to their future health and well-being. There are many who care little how much is suffered, provided that such suffering be removed from their sight; and while revolting at a lash, could coolly consign, as no business of theirs, to rot in a jail, or solitary cell, their erring countryman or fellow soldier. I have reason to believe that more real misery has arisen in twelve months, from imprisonment in the great jails of India, than has been inflicted by corporal punishment in a hundred years.”

And he afterwards gives the following picture of the effects of long solitary confinement, with the superadded punishment of a bread-and-water diet:—

“ Many men, particularly those of indolent habits, endure a confinement of four or six weeks, on bread and water, without injury to their health; but, in some instances, a shorter period is sufficient to cause a total loss of appetite—the bread is hardly touched, and on other food being allowed, the patient is unable to eat or to digest it. The stomach becomes weak; there is uneasiness across the region of the stomach, spleen, and liver; the latter is torpid;

* A Letter to the Right Hon. Sir Henry Hardinge, K.C.B., M.P., on the Effects of Solitary Confinement on the Health of Soldiers in Warm Climates. By John Grant Malcolmson, F.R.A.S. and M.G.S., Surgeon E.I.C. Service, late Secretary Madras Medical Board. London, 1837. 8vo. pp. 23.

the bowels are confined, or they are relaxed with slimy discharges unaccompanied with pain, yet the swollen red tongue indicates the existence of irritation of the mucous membrane of the digestive canal. The pulse is quick and feeble; and the clammy skin, vertigo, debility, headache, and sleeplessness, show how much the constitution suffers from diminished nervous power. The convalescence is slow, and the treatment requires to be adapted to the enfeebled state of the system. The effect is, however, more clearly seen in men sentenced to six or twelve months' solitary confinement. Two of these were in hospital at the same time, with decided symptoms of scurvy:—one was admitted after five months' confinement, during part of which he had been allowed extra diet at my recommendation. It was observed, that for some time previous to his removal to hospital, his daily allowance of bread was removed almost untouched. He complained of pains of the limbs, along the spine, and across the loins; tenderness of the shin bones; hardness, pain, and feeling of stiffness of the calves of the legs, and the skin over the painful muscles was of a dark livid colour from effused blood. The gums were spongy, livid, and retracted; and he suffered from sleeplessness, some pain of the region of the liver, and slight griping. The tongue was yellow, and its edges red. The other had been a shorter time in confinement, and complained of debility, disorder of the bowels, pains of the shin bones, &c. &c. A blister was applied, which caused a foul sore, from which dark-coloured blood flowed on the slightest touch. My friend, Mr. James Shaw, having furnished me with a report on the health of these men, two years after I left the regiment, I am enabled to state, that the one had hardly been out of hospital during that time, and had not then completed his full period of confinement; and that the other was very frequently on the sick list, with a variety of complaints. Indeed, very few men are able to undergo a long period of solitary confinement on bread and water, without being much in hospital during the period of sentence; and many continue to suffer from the various diseases to which men of exhausted constitutions are so liable in warm climates. It may not be improper to add, that I have observed the

minds also of prisoners confined for long periods, more especially when on a diet they believe to be destructive to their health, to become gloomy, or even furious, and disposed to commit every crime,—a fact which was forcibly stated many years ago, in the House of Commons, by Sir Robert Peel, in reference to the substitution of solitary confinement for other punishments in this country. When the solitary confinement is long continued, the severity of the punishment is increased in a much greater proportion than the length of time, and any addition in the shape of restricted diet, which may be necessary in short confinements, is quite uncalled for: the long seclusion without employment is itself sufficient.”

The plans of diet now attempted in so many places—the bread-and-water of Indian jails, the bread and gruel of our houses of correction, and the potatoes and pork-water of our Union work-houses—look very much like the cruel

freaks of some experimental physiologist. It hardly required so many trials to shew that the spare diet which might be sufficient for a hermit or a philosopher cannot be endured by persons in the prime of life, accustomed to active pursuits and coarse enjoyments, and depressed by compulsory confinement. The ordinary mortality among British soldiers in Bengal is justly accounted very large, for it amounts annually to 57 in 1000; but what shall we say if their mortality in Indian jails, where, as it appears from the annexed table, more than a quarter (nay, sometimes more than a half) of the prisoners die within a year?

“ The following abstract statement, showing the mortality in a few of the Indian jails, during the years 1833 and 1834, will surprise the reader.

Jails.		Deaths.	Annual Deaths per cent. to average numerical strength.
Bengal, 1833.	Shergottee	131	26·20
	Bancoonah	130	24·70
	Deenajpoor	202	57·71
Madras, 1834.	Salem	100	29·41
	Guntoor	235	33·71
	Rajahmundry	130	35·42
	Coimbatoor	101	38·42

After all, it would be better than this to return to the flogging; for as to other substitutes, such as slavish labour, or dragging about a weight for a series of years, they are certainly not to be recommended on the score of clemency.

The fact is, that it is not simple flogging, but flogging carried to an inhuman and monstrous excess, which has caused the very name of the punishment to be abominated; for the notion that the mere exposure of the person, or the infliction of a single lash, carries with it indelible disgrace, is a refinement limited to a very small and highly cultivated minority of society. The

grand point is, that the leading military men must confess their error, as it has been confessed for them in the parliamentary debates; they must acknowledge openly and repeatedly, that though flogging may be a good punishment, flogging a man till it is a moot point whether he can survive the infliction, is a very bad and brutal one.

The Jewish castigation of forty stripes save one was surely sufficient: one may remind a soldier that he is not to fall asleep on his post, or get drunk, without making mince-meat of him:—

Ne scuticâ dignum horribili sectere flagello.

In the colony of New South Wales,

magistrates have been restricted, by an Order in Council, from inflicting more than fifty lashes upon convicts who have misconducted themselves; and if we were to allow district courts-martial to go but a very little farther, we should still be giving scope enough to the *horribile flagellum*. It appeared in Colonel Thompson's evidence before the Commissioners appointed to inquire into this subject, that when, some thirty years ago, being on a court-martial, he proposed a punishment of 150 lashes, he was asked, by a brother officer, whether he wished to make a joke of the service? Lashers of the old school, therefore, would assuredly think our proposal very facetious indeed; yet it might satisfy moderate men. It is the shrewd remark of a French writer, that the opinions which are commonly thought wholly obsolete, are not, in reality, totally extinct, but survive in certain individuals. Some persons are still vexed at Magna Charta, and regret the loss of legal *villains*; the slave-trade has its partisans, and, no doubt, others might be found to cast a lingering look behind, upon the good old punishment of a thousand lashes.

ROYAL INSTITUTION.

Friday, May 12, 1837.

Dr. Mantell on Geology.

DR. MANTELL, of Brighton, delivered, with great fluency, a lecture on the geology of the country to the south of London, and on the fossil remains of Tilgate forest. The view of the subject given by him, was of so very popular a nature, that an account of his discourse would hardly interest any of the readers of this journal. This is the more to be regretted, as a good deal was expected from the lecturer, who is so well known for his original discoveries of the Iguanodon and other fossil remains, as also for his excellent works on the Geology of the South-East of England.

In the library were a number of German prints, of which many have been exhibited during the season. They were

chiefly of that bold and free style which is seen in old engravings, and which has, of late years, been too much neglected in this country.

MEDICO-BOTANICAL SOCIETY.

May 10, 1837.

THE EARL OF STANHOPE, PRESIDENT,
IN THE CHAIR.

Dr. Hancock on the Worary Poison.

A LETTER was read from Professor Dominica Viviano, of Geneva, accompanied by a copy of his splendid work on the Italian Fungi. Dr. Sigmond, the Secretary, then read an interesting essay on the Medical Virtues and Applications of the Elm Bark, in reference more particularly to its efficacy in cutaneous diseases. The author's experiments and observations were fully confirmatory of those of preceding writers. Some further remarks on the Worary, by Dr. Hancock, contained in a letter to Mr Iliff, were next read. There is no other addition made in the preparation of this poison by the Makoses, than the slimy bark of the kyheri and quasima; and this is done merely with the view of giving tenacity to the extract. The worary is, by the natives, considered of much importance, and gives name to several rivers and mountains. The Oorariquera, for instance, falls into the Parime, on the N.W., from the mountain of Oorari-maka; and the Amazon, above Rio Negro, is called by the Portuguese Rio de Solimoes, or river of poisons. The bark, applied externally, is considered a useful remedy for foul ulcers. It appeared to Dr. H. not to act by absorption through the mucous tissues, and only by its immediate contact with a nerve. The author thought it would be interesting to ascertain the effects of the bark of other species of the genus, prepared in the manner of Worary,—in his opinion one of the most potent sedatives in nature; and, could it be safely managed, he had no doubt it might become a valuable remedial agent in the treatment of spasmodic or convulsive disorders. That there are means of controlling its action he was fully persuaded; and such, it appears, are adopted by the Indians of Rio Negro and Amazon, who were constantly in the habit of shooting monkeys, birds, &c.; and after bringing them to the ground, take means to resuscitate them, and thus carry on a profitable trade with Grand Para and the Brazils.

Mr. Iliff then proceeded to detail a series of experiments instituted by him on rabbits with the worary poisoned arrows;

by which it appeared that this poison retains its power after at least twenty-seven years. When moistened, it killed a rabbit in a few minutes; and he confirmed Dr. Hancock's statement, that it may be taken into the stomach without injury, as the contents of an arrow produced no sensible effects when given by the mouth.

The next meeting will be held in the theatre of the Royal Institution, on May 24th, when the annual address will be delivered by the President.

ON THE
SCHERLIEVO.

By M. DE MOULON, OF TRIESTE.

HISTORY.—This disease, which was not known to medical men before 1800, according to some accounts arose on the banks of the Danube, from the commerce of some deserters from the Austrian army, in 1790, with a woman having a cutaneous affection, which has not been described. These men caught the cutaneous disease, which was soon followed by many ulcers on the genital organs; and by them it was communicated to many women in the neighbourhood. People of all ages and sexes were attacked in a number of villages on the banks of the Danube, from one of which, Scherlievo, where it was particularly virulent, it took its name. Another account says, that during the last war between Austria and Turkey, a conscript of Fiume caught this disease, and communicated it to his family on his return.

I am, however, from my own observations, inclined to believe that the disease, which depends on the nature of the soil, and the mode of life of the inhabitants of these unfortunate districts, has existed sporadically among them for a long time, and only became epidemic at the time when it was first observed by physicians. The Austrian government, when it became aware of the existence of this malady in 1800, made inquiries, and in 1801 issued a medical commission. At the time of the first report of this board there were 3000 affected. A hospital was established for the worst cases, and the others were visited in their own houses.

The treatment adopted was the mercurial, which was found very successful; but on the closing of the hospitals a few uncured patients respread the contagion. The war with France at this time prevented the adoption of farther sanitary measures. By means of the establish-

ment of hospitals and other precautionary measures, adopted by the Austrian government in 1818, when there were found to be 4,168 affected, the disease has gradually subsided; but a few cases are still found to occur, chiefly in the province of Fiume.

Stages and different forms.—Its different forms are, pains, ulcers, swellings of the joints, tumors of the bones and glands, sores of the legs, and the herpes crustacea, or melitagra, of Alibert.

After the disease has been stationary for some time, the patient feels lassitude in all his limbs, which rapidly increases and becomes very painful. Pains in the bones are felt, which never cease, but are felt most at night. In some the pains are in the muscles. This first stage may last from a few months to several years, before the disease makes any farther progress. In some, during the first stage, there is no swelling or other sign of organic change; in others the joints are swollen; in others, again, the glands of the neck and of the axilla begin to swell. In the muscular pains there is generally a little swelling, without any redness, at the most painful points. In spite of these pains the general health is not disturbed, and physicians, therefore, but seldom see cases in this stage.

The young who are affected become scarcely at all thinner, even after several years, while the old are quickly reduced to the state almost of mummies. It is in the old that the first stage lasts longest.

In the second stage the pains disappear, and different symptoms are manifested, sometimes singly, sometimes collectively. There is swelling of the tonsils, of the velum, of the pharynx, of the larynx, the posterior nares, and the eyelids, of which the upper are oftenest affected. The whole of the patient is covered with a more or less extended white layer, under which is formed a commonly superficial ulceration, which is visible at the third stage, when this layer has desquamated. The different glands swell, and attain the size of a pigeon's egg, without deranging the function of generation. Gonorrhœa, common among the women, is rare among the men. The skin is covered with many small subcutaneous swellings, of the size of a pea, especially on the feet, legs, and inside of the arms and back. At first they are of a pale red colour, but a violet tint gradually spreads from their circumference to their centre. In some places the natural appearance of the parts is altered, and they become quite disgusting. In others there are irregular patches, like scurvy, but larger and more raised, and often very painful. The long bones, and those of

the articulations, become monstrously deformed, as in rachitis; and this alteration is commonly called *pied d'éléphant*. During the second stage the only pain is that produced by the alteration in the bone. The deformity is never cured, and it is well when the physician puts a stop to the pains. This alteration is seldom seen in children. There are also frequently swellings of the bones, like those of syphilitic exostosis, only larger. The duration of the second stage is very various, but never so long as that of the first. Cure is more difficult than in the first stage; and if there be scrofula or any venereal complication, the disease cannot be prevented from running on to the third.

Suppuration of any of the swollen parts denotes that the affection has reached its third stage. The patients now seek medical advice, not from pain, but from fear of becoming hopelessly deformed. This stage is marked by an aggravation of the symptoms of the second, and by new phenomena. There is more or less ulceration of the tonsils, larynx, eye-lids, &c. Crusts form on the point of the nose, the cheeks, and the forehead. These crusts, as I said before, resemble scaly lepræ, but are more extensive and irregular. Those on the face resemble melitagra, while those on the shoulders, arms, &c. are sometimes larger than the hand. There issues from the base of the crusts a clear matter, yellowish at first, which becomes thicker and darker; and when the crusts fall, they leave large superficial ulcers, having lardaceous bottoms, and their edges a little raised. These ulcers increase very much in extent, but little in depth. They gradually involve the whole face, destroying the integuments and muscles, and finally separate the under jaw from the upper. I have seen a woman of 65, who lived nine months after losing the whole of the under jaw. She had suffered for twenty-three years, and no febrile symptoms appeared till within a few months of her death.

The third stage lasts the longest of the three, and individuals have ulcers for more than twenty years. These ulcers, when they are old, have very much the appearance of the chronic ulcers seen on the legs of old men. Some medical men divide scherlievo into as many varieties as there are differences in the cutaneous affection; but as all these varieties depend on the same cause, and are only different stages of the same disease, I look on their distinctions as too nice. There is often suppuration of the inguinal glands, and *condyloma* of the anus; but I have never seen *condyloma* in the vagina of women who had not the venereal taint. Those

who have had the disease long, have a yellowish foetid discharge from the vagina; they are irregular in their menstrual discharge. May not this discharge be vicarious? The most common deformity produced is loss of the nose and of the velum.

Prognosis and complications.—When this disease is fatal, death is caused by gradual wasting away, which is only seen in individuals who have had immense ulcers for many years. When scherlievo is accompanied with scurvy, scrofula, &c., cure is very difficult—almost impossible. Relapses after partial recovery, which are so common, are, I conceive, occasioned by re-exposure to the morbid causes. Sometimes it is impossible to arrest the progress of the disease, but the more recent it is, there is the better chance of success; and in cases where it is early checked, relapse is least frequent. Itch and syphilis are also frequent complications. Many think that the itch may be the cause of the herpetic form of scherlievo; but in the cases which I have seen, after the cure of the itch, the disease retained the same herpetic form. The same may be said of scurvy; but the cure of the scrofulous complication was much more difficult,—in fact, after the age of puberty, I have found it almost always incurable. The prognosis, then, may be good when the disease is recent, and there is no scrofulous or other complication; but the malady is very obstinate in those who have taken much mercury; and when there have been many relapses, or the disease is of long standing, the prognosis must be unfavourable.

Origin and causes.—This disease has been commonly looked on as a consequence of venereal contagion; but I conceive that syphilis is only a complication of the malady. My own belief is, that it has been long endemic on the shores of Fiume, and in certain districts of Istria, and that it occasionally loses its sporadic, and assumes an epidemic character. In scherlievo many patients feel pains in their bones for months and years before any ulcers appear; while in true syphilis, pains in the bones are not felt till the disease has reached its height, and the whole system has been affected. In scherlievo, ulcers give no pain for years, which is never the case in syphilis. If the disease be contagious, like syphilis, as some assert, it must have spread more widely, and have reached the neighbouring towns. Many women affected have had children, who were born and continued healthy, though nursed by their mothers. Besides this, Professor Wallberg, of Stockholm, informs me, that there is in Sweden a similar sporadic disease, which is never

contagious, is incurable, and the origin of which is unknown. At Brenn, near Ragusa, there is a very similar malady, which is never contagious. In fine, *schierlievo* exists only in the most wretched and miserable districts. I therefore consider myself fully borne out in my opinion, that *schierlievo* is perfectly distinct from syphilis.

Treatment.—Mercury is very useful in the treatment of this disease, and especially the bichloride combined with opium; but this treatment is often insufficient, and even injurious. Where, however, mercury cannot be given by the mouth, a solution of the bichloride is often an useful lotion for the ulcers. It is only in the young and the robust that a mercurial course is found generally to succeed. Where mercury has always been tried without effect, I have found most advantage from a light and nourishing diet, with tonics, and small doses of aconite with sulphur. Baths of warm water, impregnated with sulphuret of potash and lime, are most efficient aids. Various topical remedies are also applied to the ulcers. If the disease be quite chronic, I attempt no treatment, but give good food and keep the ulcers clean. I of course vary the treatment, according to the particular circumstances of the case. The number of those who recover without any treatment is very small.—*La Presse Médicale.*

CHRONIC OTITIS, CAUSED BY TUBERCLES IN THE EAR;

WITH PARALYSIS OF THE MUSCLES OF EXPRESSION OF THE FACE, AND PHTHISIS.

JOSEPH ODIN, aged 23, had been in bad health for some years, and shown symptoms of phthisis. In 1834 he was attacked with lancinating pain in his right ear. In two months the pain was somewhat relieved by a scanty white purulent discharge, which ever afterwards continued. From the beginning of the attack he was deaf, and two scrofulous swellings appeared under his maxilla a year ago. On the 1st of January, 1837, he felt more than ordinarily severe pains in the ear, and the purulent discharge almost entirely ceased. He had pains in his forehead, with some transient swelling. In a few days he was affected with paralysis of the muscles of expression of the right side of his face, and was admitted, under M. Chomel, on the 13th of January. The only treatment adopted was the making two caustic is-

sues in the neck. In this state he was attacked by small-pox, of which he died on the 7th of February. On examination, the brain was found to be perfectly sound. Towards the base of the *pars petrosa* was observed, for the extent of two square lines, a whitish-yellow spot under the dura mater. At the point corresponding to this stain there was observed some solid matter, friable, of a dull white colour, and resembling a tuberculous deposit. It was lodged in the temporal bone, which it had penetrated to the depth of three or four lines. The walls of the cavity of the tympanum were found to be red, spongy, and moistened with purulent matter. Though there was no caries, or necrosis, the small bones were destroyed, and the tympanic membrane was also gone. A second tubercular mass was found, entirely filling the internal auditory canal for nearly four lines. The trunk of the facial nerve, though unaltered in structure, was found strongly compressed between this tubercle and the bone. The auditory nerve was destroyed, but the fifth pair offered no appreciable lesion.

This case shows that affections of the ear may, in phthisical patients, be caused by tubercular deposits; and similar cases are not of very rare occurrence. The diagnosis of this variety of otitis is necessarily very difficult, but luckily not of very great importance.

The interesting point in this case is the compression of the nerve of the seventh pair, causing paralysis of the muscles of expression on the right side of the face. It has been demonstrated that the nerve of the seventh pair presides over the motion of the face, while the fifth, on the contrary, gives it its sensibility. In this case, the seventh was alone affected, while the fifth was untouched. Yet the conjunctiva was insensible to the irritation of a feather. The sight, too, and the taste and smell, were enfeebled. How, then, is this to be explained? Anatomy shows, that although the nerves of the seventh and of the fifth pair have different functions, yet their branches frequently anastomose. Might not, then, the affection of the one nerve be transmitted to the other by anastomosis? This is the more likely, as these affections of sight and smell do not indicate any lesion of the nerves which preside over them.

There remains the question whether the tubercles were first developed in the cavities of the ear or in the substance of the bone? The probability is that they originated in the bone.—*La Presse Médicale.*

TREATMENT OF SOME FORMS OF
ACUTE OPHTHALMIABY THE
APPLICATION OF SUCCESSIVE BLISTERS
UPON THE CUTANEOUS SURFACE OF
THE EYELIDS.

BY A. VELPEAU.

THE sudden disappearance, on the occurrence of erysipelas of the face, of some forms of ophthalmia, which had long resisted the usual means of treatment, first led M. Velpeau to the use of blisters in ophthalmia, applied as near as possible to the inflamed part, and therefore upon the eyelids. The advantages resulting from their use were found to be very considerable, and to be most evident in those cases where the inflamed vessels were not the same as those the action of which was increased by the use of the blisters; thus, *e. g.* inflammation of the cornea, the vessels of which are derived from the ciliary branches of the ophthalmic artery, is more benefited by blisters than inflammation of the internal surface of the eyelids, which are supplied by the palpebral branches, and which are directly acted upon by the new cause of irritation. M. Velpeau therefore thinks that blisters applied upon the eyelids will be of the most service in those cases where the inflammation is nourished by the muscular branches of the ophthalmic artery, the ciliary and central of the retina. M. Velpeau has now employed blisters in these cases more than fifty times. In no case have they increased the evil which they were intended to remedy, they have not increased the pain, they leave no indelible marks upon the face, and the only evil effect which has been observed to follow them is an occasional sty.

The immediate advantages following blisters in such cases, are—diminution of headache, if it previously existed; diminution of lachrymation and intolerance of light, of redness and thickness of the ocular conjunctiva; cleansing of ulcers; lessening of the cloudiness and suffusion of the cornea and aqueous humor, of effusions of pus or lymph, or at least a discontinuance of their formation, together with improvement in the general state of the patient.

But in many cases there is a class of secondary effects which do not clearly manifest themselves before the blistered surface begins to heal. Of these the most remarkable is the diminution of the cloudiness of the transparent parts of the eye. If lymph be deposited at the bottom of an ulcer, in the substance of the cornea, under the form of hypopium, in layers or

masses, it is equally under the power of the blister—disappears as it were by enchantment; so that the clarification of the cornea and aqueous humour appears to be the special object of the blister. Another effect, almost as constant, but not so rapid as the preceding, is the extinction of inflammation in the conjunctiva, then in the cornea. If there is chemosis, this gradually diminishes. Should ulcers be formed on the cornea when the inflammation is calmed, these will require other remedies to hasten their cicatrization. Blisters applied in front of the orbit are not beneficial in all forms of ophthalmia. They are of especial advantage in favouring the absorption of matters which tend to obscure the clearness of the transparent media of the eye; and their use is indicated in acute inflammations, foreign to the eyelids; in inflammations of the various tunics of the eye, and of the parts contained within the orbits. In ophthalmies which are seated in the fibro-serous tissue of the eye, *i. e.* in rheumatic ophthalmies, the effects of blisters are more complete than in any other cases, whatever may be the intensity of the inflammation. No topical application is so efficacious. The disease is, as it were, extinguished beneath the blister, and ordinarily disappears entirely by the use of one or two blisters in the space of from eight to fifteen days. The catarrho-rheumatic ophthalmia is still more under the influence of the blisters applied upon the eyelids. M. Velpeau concludes his paper by hinting at the possible advantage to be derived from blisters in the earliest period of cataract; he grounds the idea of their possible utility on the influence which they appear to possess of restoring those parts of the eye which have become cloudy to their natural transparency; but the notion is supported by no facts.—*Journal des Connaissances Médico-Chirurgicales*; and *Brit. and For. Med. Rev.*

DINOTHERIUM GIGANTEUM.

M. DE BLAINVILLE lately read before the Académie des Sciences an elaborate paper on the skull of this extinct animal lately brought to Paris. We cannot, however, afford space for an analysis of it. He was much inclined to doubt whether this animal possessed a trunk, as many have supposed. He was more disposed to consider it, with Cuvier, (who had only seen its molar teeth), as a gigantic tapir, than as a large species of the edentata, with M. Kaup. M. de Blainville was inclined to refer it to the family of aquatic Gravigrades of his own system.—*La Presse Médicale.*

TABLE VI. — DIPTERAL I.

Family and Genus.	Larval Species.	Authority.	Country.	Reference.
CUTICOLÆ.				
<i>Æstrus?</i> Case 1.	Bovis, Lin.	Bracy Clark.	....	Lin. Trans. p. 32
Case 2.	Species unknown, 3 botts of.	Dr. Heysham.	Carlisle?	Bateman, M vol. vii.
Case 3.	Numerous botts.	Dr. Chichester.	London.	Edin. Med vol. vii. p.
Case 4.	Species unknown.	....	Demerara.	Loudon's M p. 48
Case 5.	Hominus, Curtis.	J. Howship, Esq.; Mr. Gill.	Surinam.	Phil. T
Case 6.	Hominus?	Treherne; J. Howship, Esq.	Maraquita, Colombia.	Ditt
Case 7.	Hominus.	Linne, the younger; Gmelin.	....	Letter to Gmelin's S
Case 8.	Species unknown.	Say, and Dr. Brick.	Philadelphia.	Ent. Trans. c p. 52
Case 9.	Ditto.	Roulin.	Maraquita, Colombia.	Ditto, p
Case 10.	Ditto.	Roulin.	....	Ann. Ent p. 52
Case 11.	Ditto.	Vallot.	Doubtful.	Ditto, p
Case 12.	Ditto.	Arture.	Cayenne.	Entom. de vol. ii. p
Case 13.	Species unknown.	Guerin. Dr. Guion.	Martinique.	Ditto, p
Case 14.	Ditto?	Goudout.	America.	Ditto, p
Case 15.	Ditto?	Anonymous.	Peru.	Percheron p. 2
Case 16.	Hominus, Oliv.	Olivier.	S. America.	Ency. Met viii. p.
Case 17.	Hominus, Lin.	Rudolphi.	Prussia?	...
Case 18.	Guildingii, Hope.	Lansdowne Guilding	Trinidad.	Owen Ca
Case 19.	Species unknown: 2 larvæ of.	Metax.	....	Zool. Med 183
Case 20.	Species unknown.	Mr. Clift.	....	...

PRODUCING MYACIS.

Red or not.	Local Affection.	Sex.	Age.	Result.
.....	Jaws.	Female.	.....	Death.
Comm. p.30. pl. 1. 2 & 3.	Antrum.	Male.	.....	Recovery.
.....	Stomach.	Male.	.....	Recovered.
.....	Arm.	Male.	.....	Recovered.
by Mr. C. Curtis.	Scapula.	Male.	.....	Recovered.
Ditto.	Scrotum.	Male.	Young.	Recovered.
.....	Skin of abdomen.	.....	.....	Death.
.....	Leg.	Male.	.....	.....
.....	Scrotum.	Male.	Unknown.	Relieved.
.....	Cuire chevelu de l'homme.	Male.	.....	.....
.....	.....	Male?	.....	.....
.....
.....	Surface of the body.	Male.	.....	.....
.....	.....	Male.	.....	.....
.....	.....	Male.	.....	.....
.....	Under skin of ab- domen.	Male.	.....	.....
.....
C. Curtis.	Head.	Male.	.....	.....
see plate.	Ear.	.....	.....	.....
.....

CALCULUS IN THE URETHRA.

A VETERAN, aged 62, of sanguine temperament, was lately admitted into the Hôpital des Invalids, under M. Pasquier; the history of whose case is as follows:—He was operated on for stone in 1818, when the calculus had, from its size, to be broken down, before it was extracted. For some time there remained a fistulous opening, giving rise to incontinence of urine, but after the employment of a sort of wooden compress for a long time, it closed. From its retention in the urethra, however, the lithic acid of the urine gradually crystallized in that canal, and terminated in the formation of a stone, the size of a nut or small egg, in the anterior subpubic portion of the urethra, which almost completely obstructed the passage of the urine, and which is easily felt from without. In 1822 he was twice punctured (probably for hydrocele). After this the left testicle became hypertrophied, and remained so; and on examination he is now found to have hydro-sarcocele. To complete his misfortunes, he has also a considerable scrotal hernia on either side; nevertheless, his appetite and general health are good.

As the retention of urine is the most urgent indication, the first object has been to pass bougies by the side of the urinary concretion, in order to re-establish the former incontinence of urine. It remains to be determined whether under such complicated circumstances it will be expedient to remove the calculus. If its volume increase much, its removal will probably be indispensable.—*Gazette des Hôpitaux*.

CASE OF NAIL IN THE BRONCHIA.

DR. BRIGHAM, of Hartford, Conn. relates, in the American Journal, a case in which a brass nail was swallowed by a girl five years of age. She was seized with coughing, which continued several days, and then subsided. One year afterwards she took cold, which was followed by increased cough, expectoration, hæmoptysis, hectic fever, night sweats, and other usual symptoms of phthisis pulmonalis. She died in thirteen months after the accident. On examining the body, at the fourth or fifth division of the right bronchial tube, more than one inch from the bifurcation of the trachea, was found a common brass nail, half an inch long, with a head nearly the same in diameter. It was coloured black, but not in the least corroded, and appeared to be firmly fixed. The substance or outer part of the right lung adhered extensively to the adjacent parts, and contained several large abscesses that discharged pus into the bronchi by fistulous passages.—*Dublin Journal*.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 18, 1837.

J. C. F. Renton.

John Henry Brown, of Castle-house, Leicester.
Joseph Holland, of Yewsley, Uxbridge.
Samuel Badeley Strowger, of Harleston, Norfolk.
William Cooke, of Boston, Lincolnshire.
Henry Crawford, of Faversham.
William Cockerott, of Middleham, Yorkshire.
Edmund Gill, of Shipton-in-Craven, Yorkshire.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, May 16, 1837.

Abscess	2	Heart, diseased	5
Age and Debility	46	Hooping Cough	16
Apoplexy	7	Inflammation	19
Asthma	15	Bowels & Stomach	3
Cancer	2	Brain	6
Childbirth	5	Lungs and Pleura	10
Consumption	57	Insanity	7
Convulsions	32	Jaundice	1
Dentition or Teething	11	Liver, diseased	3
Diarrhœa	1	Measles	12
Dropsy	14	Mortification	4
Dropsy in the Brain	5	Paralysis	4
Dropsy on the Chest	2	Small-pox	3
Dysentery	1	Spasms	3
Erysipelas	1	Thrush	1
Fever	11	Unknown Causes	16
Fever, Scarlet	4		
Gout	2	Casualties	3

Decrease of Burials, as compared with }
the preceding week } 31

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

May.	THERMOMETER.		BAROMETER.	
Thursday . 11	from 25 to 53		29.86 to 29.93	
Friday . . 12	31	57	29.83	29.75
Saturday . 13	27	59	29.77	29.76
Sunday . . 14	28	59	29.73	29.86
Monday . . 15	36	54	29.95	30.07
Tuesday . . 16	37	61	30.20	30.24
Wednesday 17	29	70	30.23	30.13

Winds N. and N.W.

Except the morning of the 12th, 14th, and following day, and evening of the 17th, generally clear, with rain at times: a little thunder and lightning, accompanied with rain, in the afternoon of the 14th.

Rain fallen, .225 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

We regret very much that we cannot comply with the request of the Pupils of the Aldersgate Medical School. We have no doubt of the gentleman to whom they presented an address having fully merited the compliment paid him; but were we to establish a precedent by inserting it, our pages would be overloaded with similar documents.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL
OF

Medicine and the Collateral Sciences.

SATURDAY, MAY 27, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXIII.

I now proceed to notice the family

CUPULIFERÆ, OR CORYLACEÆ,

which contains only one genus interesting in a pharmacological point of view — namely, *Quercus*. The most important species of this genus are, *Q. Robur*, (or *pedunculata*), from which we obtain the oak bark usually employed in medicine; *Q. Suber*, which yields us cork; *Q. insectoria*, from which we obtain nutgalls; *Q. Ægilops*, whose acorn-cups are employed in dyeing; and *Q. tinctoria*, whose bark (called Quercitron) is used for a similar purpose.

Quercus Robur: the common British Oak.

History.—The oak is one of the most anciently known trees: it is mentioned in the Bible, and by the Greek and Roman writers. Both Dioscorides and Galen were acquainted with its astringent qualities and therapeutic uses. “Every part of the oak (says the former of these authors), but especially the liber which lies between the bark and wood, possesses an astringent property.”

Botanical history.—Two species of *Quercus* are natives of this country—namely,

1. *Q. Robur* (the *pedunculata* of some botanists), or the common British Oak.

2. *Q. sessiliflora*, or sessile fruited Oak.

These two species were, for a long time, considered as varieties. The distinction,

however, is most important in a national point of view, if it be true, as is asserted, that the wood of the *Q. sessiliflora* is very inferior to that of the *Q. Robur*, and that the destruction of some of our modern-built vessels is to be ascribed to the substitution of the wood of the one species for that of the other.

The *Quercus Robur* forms one of our largest and most handsome trees, and is remarkable for its longevity. It is found growing in woods and hedges, in all parts of this country. The leaves are alternate, deciduous, on short stalks, oblong, wider towards the extremity, deeply sinuate; their sinuses being rather acute, and the lobes obtuse. The flowers are monœcious: the males are arranged in lax, pendulous catkins (amenta), and consist of about eight stamina surrounded by several bracteal scales which cohere at their base into the form of a calyx. The female flowers are ovate, and composed of a three-celled ovary (each cell having two ovules, but two of the cells become abortive), crowned by the rudiments of a superior calyx, a trilobed stigma, and cup-shaped involucre covered with scales.

The fruit of the oak is the well-known acorn; it is an example of that kind of fruit called by modern botanists the *glans*.

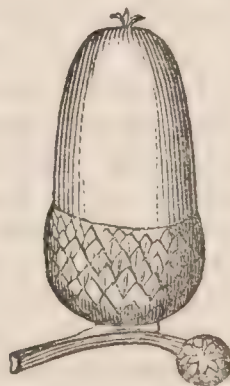


FIG. 179.—The Acorn.

Superiorly we observe it crowned with the remains of the teeth of the calyx, but which are so small as to be easily over-

looked. Inferiorly it is seated in a hard, cup-shaped involucre, commonly called the *acorn-cup*, but by botanists termed the *cupule*. The seed has the form and magnitude of the glans.

The Linnean class and order of the genus *Quercus* is *Monœcia Polyandria*. The officinal part of the *Q. Robur* (called in the Pharmacopœia *Q. pedunculata*) is the bark.

Barking.—Oak trees are usually cut down in April or May, since at this season the bark contains more astringent matter, and can be more readily separated from the wood. The operation of barking is carried on from the beginning of May to the middle of July. The barkers make a longitudinal incision with a mallet furnished with a sharp edge, and a circular incision by means of a barking-bill. The bark is then removed by the peeling-irons, the separation being promoted, when necessary, by beating the bark with the square end of the mallet.

It is then carefully dried in the air, by setting it on what are called lofts or ranges, and is afterwards stacked.

Physical properties.—Oak bark occurs in

pieces of from one to two feet long, which vary in their appearance according to the age of the stem or branch from which they have been taken. The bark of young stems is thin, moderately smooth, covered externally with a silvery or ash-grey cuticle, and is frequently beset with lichens. Internally it is, in the fresh state, whitish; but when dried, brownish, rough, and fibrous. The bark of old stems is thick, very rough externally, cracked and wrinkled, and is of inferior quality.

Composition.—According to Braconnot oak bark contains—

Tannic acid.

Tannates of lime, magnesia, potash, &c.

Gallic acid.

Uncrystallizable sugar.

Pectine.

Most of the experiments hitherto made with this bark have been instituted for the purpose of ascertaining the quantity of tannic acid; but as this substance has not hitherto been obtained in the pure state, no reliance can be placed on the proportions assigned. Here are the statements of Davy:—

480 Parts of	Tannin afforded.
Entire bark of middle-sized oak, cut in spring	29
———— oak cut in autumn	21
———— coppice oak	32
White interior cortical layers of oak bark	72

The decoction of oak bark produces a deep blue tint with solutions of the ferruginous salts, and precipitates solutions of gelatine. Vauquelin remarked that this decoction will not precipitate a solution of emetic tartar.

Quercia.—Two American writers have announced the existence of a peculiar substance in the Spanish oak (*Quercus falcata*), and have applied to it the name of *quercia*. It is said to be a white tasteless substance, to combine with the mineral acids forming salts, and, though not a metallic oxide, to have a stronger analogy to the earths than to the proximate vegetable alkalies. Four hundred grains of the bark, we are told, yielded twenty grains of *quercia*. Further experiments, however, are required, ere we admit the existence of this substance. Martius says that Gerber was unable to detect *quercia* in oak bark (I presume he refers to the bark of *Quercus Robur*).

Physiological effects.—The effects of oak bark are similar to those of other substances which abound in tannic acid; and

which we have had occasion to notice in previous parts of this course. I shall, therefore, content myself with remarking, that the local operation is astringent, the remote action tonic.

Uses.—The principal value of oak bark, in medicine, arises from its astringent property. Thus we employ a decoction of it as a gargle in relaxed conditions of the uvula and in chronic inflammatory affections of the throat; as a wash in flabby ill-conditioned or bleeding ulcers; as an injection in leucorrhœa, in piles, and in prolapsus of the uterus or rectum; as an internal astringent in old diarrhœas, in the last stage of dysentery, in alvine hæmorrhages, &c. Poultices made of powdered oak bark have been applied with benefit to mortified parts. Mr. Lizars states that he has obtained “wonderful success” in the cure of reducible herniæ by bathing the groin (the hernia having been previously reduced) three or four times daily with a warm inspissated decoction of oak bark, and then applying the truss. The practice, however, is not a new one. The inhala-

tion of finely-powdered oak bark is said to have proved very beneficial in pulmonary consumption.

As a tonic, oak bark has been employed in medicine, but it is much inferior to the cinchona. Baths made of a decoction of this substance have been used by Dr. Eberle in the intermittents of very young children with benefit; and Dr. Fletcher (of Virginia) has recommended the same remedy in *tabes mesenterica*. The decoction, powder, and extract, have been taken internally in intermittents, but they are very apt to irritate the stomach.

Administration.—The dose of powdered oak bark is from half a drachm to one or two drachms. The *decoction* (prepared by boiling ten drachms of bark in two pints of water down to one pint) may be given in doses of one or two ounces. The *extract* (ordered in the Dublin Pharmacopœia) is procured by the evaporation of the decoction: its dose is ten grains to a drachm.

Quercus tinctoria: the black Oak.

This tree is a native of America, from whence the bark is largely imported under the name of *quercitron*, and is consumed by dyers for giving a yellow colour to wool and silk.

Quercus Suber: the Cork tree.

This tree is a native of the northern parts of Africa, and of the southern parts of Europe, particularly of France, Spain, and Portugal.



FIG. 180.—*Quercus Suber*.

Although no medicinal agent is obtained from it, yet the important pharmaceutical uses of its cortical portion must be my excuse for noticing it.

The substance which we call *cork* constitutes that part of the bark of the *Quercus Suber* which is commonly termed (in other trees) the *cellular envelope*, the *rete*

mucosum, or *medulla externa*, and is originally situated between the cortical layers and the cuticle; but owing to the drying and cracking of the latter, the cork forms usually the most external portion of the stem. This envelope falls naturally every eight or nine years, but for commercial purposes is usually removed one or two years before this period. That season of the year is selected when the bark adheres the most firmly to the wood, in order that the cork may be raised without endangering the separation of the *liber* from the *alburnum*. By this precaution the trees are not at all injured by the corking process—nay, they are said to be more healthy and vigorous than when the cork is allowed to accumulate on their stems. The trees yield these crops from the age of 15 to 150 years.

To remove the cork, an incision is made from the top to the bottom of the tree, and a transverse circular incision at each extremity; the cork is then stripped off. To flatten it, a number of layers are piled up in a pit of water, and loaded with weights to keep them down. Subsequently they are dried, and in that state exported. Our supply is principally derived from Spain and Portugal. To close the transverse pores, cork is charred.

The physical properties of cork are too well known to need description. Its leading character is elasticity. When thin slices are examined by the microscope, they present a cellular appearance.

When cork has been deprived of all its soluble matters by successive digestions in water and alcohol, it differs but little from ordinary cork; it is, however, then termed *Suberine*. This suberine is analogous in its nature to lignin, but as it yields a peculiar substance (*suberic acid*) when treated by nitric acid, it has been regarded as a distinct principle.

Suberic acid is composed, according to Bussy, of—

8 atoms carbon	.....	$8 \times 6 = 48$
6 atoms hydrogen	.....	$= 6$
3 atoms oxygen	.....	$3 \times 8 = 24$
		—
1 atom anhydrous suberic acid		$= 78$

By distilling suberate of lime, Bossin-gault obtained an oleaginous substance, which has been denominated *suberone*.

Raspail contends that Suberine is only lignin undeprived of some of its foreign matters—such as wax, resin, &c.

The soluble principles of cork are gallic acid, some gallates, resin, a waxy-like substance, colouring matter, &c. You will, therefore, see the impropriety of employing cork in closing vessels containing substances capable of acting on any of these principles. Thus, if a chalybeate water were sent to a chemist for analysis,

in a corked bottle, part of the iron of the water would combine with the gallic acid of the cork, and thus lead to an erroneous estimation of the quantity of metallic impregnation.

Cork was formerly employed in medicine. Reduced to powder, it was applied as a styptic: hung about the necks of nurses, it was thought to possess the power of stopping the secretion of milk; lastly, burnt cork, mixed with sugar of lead and lard, has been used as an application to piles.

Quercus coccifera: the *Kermes Oak*.

A little hemipterous insect, called *Coccus Ilicis*, infests a species of *Quercus*, which, in consequence, has been termed *coccifera*.



FIG. 181.—*Quercus Coccifera*.

This insect was formerly employed as a scarlet dye-stuff, under the name of *Kermes*, but it is now superseded by another species—namely, the *Coccus Cacti*, or *Cochineal*.

Quercus Ægilops: *Velonia Oak*.

The large acorn-cups or cupules of this oak are imported from the Levant, under the name of *Velonia*, and are used by dyers for striking a black colour, with the salts of iron.

Quercus infectoria: *Dyer's Oak*.

This is the oak on which are produced the excrescences denominated *nutgalls*. It is found throughout the whole of Asia Minor, from the Bosphorus to Syria, and from the Archipelago to the frontiers of Persia. It has also been met with in other parts of Asia.

It is a small tree, or shrub, from four to six feet high, with a crooked stem; oblong, mucronate-toothed leaves, smooth on each side, and supported on short petioles. The fruit is solitary, and the acorn is two or three times longer than its cup (cupule).

Galls.

A tribe of Hymenopterous insects, called *Gallicolæ*, or *Diptolepariæ*, formed by the genus *Cynips*, is furnished with a terebra, or borer, by means of which they are enabled to perforate the foliaceous or cortical parts of plants for the purpose of depositing their eggs along with an acrid liquor in the wound thus made. The irritation thereby produced gives rise to an influx of the juices of the plant to the wounded part, and an excrescence is formed, which is termed a *gall*. Here the insect undergoes its transformations: the egg produces the larva (or maggot), which feeds on the juices of the plant, and is changed into the pupa, which afterwards becomes the perfect insect (imago); this, perforating the gall, escapes from its prison-house.

The external form and appearance of these productions are very constant when formed by the same insect, on the same part of the same plant; but the galls of different species of vegetables, as well those of the same species, produced by a different insect, vary considerably. There is reason for believing that the form and appearance of the gall is determined more by the insect than by the plant; for we sometimes have on the same oak two kinds of galls, of very dissimilar appearance, produced by different insects. Galls have sometimes been mistaken for fruit: thus Pomet describes nutgalls as the fruit of the *Q. infectoria*. The celebrated *mala insana*, or *poma sodomitica* (said by some to be the fruit of *Solanum sodomium*, fig. 181), are declared by Mr. Lambert to be a gall of the *Quercus infectoria*, and which is figured by Olivier. Mr. Lambert, however, is certainly in error when he says these galls “are identical with those of commerce.”



FIG. 181.—*Solanum sodomium*.

Before describing our officinal gall, I may refer to some well-known indigenous galls. And first of the *gall of the*

Salix Helix. At the end of the branches of this willow we often meet with rose-like expansions (from which the plant has been termed the *rose willow*): they are formed by the puncture of an insect. So also the red carbuncular protuberances observed in the leaves of this *Salix* are produced in the same way.

2. One of the most remarkable of our indigenous galls is that found on the wild rose, particularly on the sweet briar or eglantine (*Rosa rubiginosa*.) This gall is termed *Bedeguar* (a word derived from the Arabic or Hebrew), or *sweet briar sponge*,—or sometimes *Fungus Rosarum*. It is produced by the puncture of the *Cynips Rosæ* and *C. Brandtii*.



FIG. 182.—*Bedeguar*, or *Sweet Briar Sponge*.

This gall is usually rounded, but of variable size, sometimes being an inch or an inch and a half, or more, in diameter. Externally it looks shaggy, or like a ball of moss, being covered with moss-like branching fibres, which are at first of a green colour, but afterwards become purple. The nucleus is composed principally of cellular tissue, with woody fibre; and where the fibres are attached, bundles of spiral vessels are observed. Internally there are numerous cells, in each of which is the larva of an insect: if opened about August or September, you will rarely fail in finding maggots (larvæ). It is inodorous, or nearly so; its taste is slightly astringent; and it colours the saliva brownish. It has not been analysed, but is suspected to contain tannic and gallic acids. Dried and powdered, it was formerly given in doses of from ten to forty grains, as a diuretic and lithontriptic. More recently it has been recommended as an anthelmintic, and as a remedy against toothache.

3. Another well-known indigenous gall is the *oak apple*. It is produced on our oaks by the puncture of a *Cynips*.

These galls are usually spheroidal, but of variable size; commonly, however, not exceeding one or two inches in diameter. Their texture is spongy. They have been employed, on account of the tannic acid they contain, as a substitute for nutgalls in dyeing.



FIG. 183.—*Oak Apple*.

4. The most important of all galls are the *nutgalls*, formed on the *Quercus infectoria* by the *Cynips Gallæ tinctoriæ*.

This insect is from $2\frac{1}{8}$ to 3 lines long, and from 7 to 8 lines broad from the tips of the expanded wings; its colour is dirty yellowish brown, except the base of the abdomen, which is shining blackish brown. The areolæ of the superior wings are very large, and closed; the others are imperfectly closed. The antennæ are short (not so long as the head and breast-piece), and brownish yellow. Olivier says that this insect lives on the *Quercus infectoria* only.

On the sides and at the ends of the branches and shoots of this tree the female makes a puncture and deposits her egg. An excrescence is soon formed, within which the larva is developed, which is changed first into the pupa and then into the imago. As soon as the perfect insect is produced, it eats its way out. If we examine those galls from which the animal has escaped, we observe externally a circular hole, of about a line in diameter, leading to a canal of from $2\frac{1}{2}$ to $3\frac{1}{2}$ lines long, which passes to the centre of the gall. But in those galls in which the

insect has not put off its pupa state, we find neither an external hole nor an internal canal. Those galls from which the insect has escaped are commonly larger, lighter coloured, and less astringent: these are termed *white galls*.

Nutgalls are imported into this country principally from Turkey, but some come from the East Indies. Two kinds of Turkey galls are sometimes described,—namely, the Aleppo and the Smyrna; but there are no essential distinctions between them. Guibourt says the Smyrna galls are not so heavy, are lighter coloured, and contain a larger admixture of white galls than those brought from Aleppo.

In commerce two kinds of galls are usually admitted—namely, *blue or green galls*, and *white galls*.

1. *Black, blue, or green galls*.—These are gathered before the insect has escaped, and are called by the natives *Yerli*. They vary from the size of a pea to that of a hazel-nut. The smallest have a blackish-blue colour, and are in some works distinguished by the name of *black* or *blue galls*, while the term *green galls* is confined to the larger and greener varieties. Externally they are frequently tuberculated, but the surface of the tubercles and of the intervening spaces is usually smooth. Their texture is compact, but fragile. They have no odour, but a styptic and powerfully astringent taste.

2. *White galls*.—These are for the most part gathered after the insect has escaped, and hence they are perforated with a circular hole. They are larger, lighter coloured (being yellowish or whitish), less compact, and less astringent. They are less esteemed in commerce.

Composition.—According to Sir H. Davy 500 parts of nut galls consist of—

Matters soluble in water	185
Ditto, insoluble	315

500

The substances soluble in water, were—

Tannin	130
Gallic acid (with a little extractive)	31
Mucilage, and matters rendered insoluble by evaporation	12
Carbonate of lime and saline matter	12

185

Braconnot subsequently announced the existence of another acid in galls, which he denominated (from the French word for galls, *galle* spelt backwards) *ellagic acid*.

1. *Tannic acid*.—The substance formerly described in chemical works by the name of *tannin*, is tannic acid mixed with some foreign matters, from which it is very difficult to free it. Indeed, it may be

fairly questioned whether absolutely pure tannic acid has yet been seen.

When extracted from nutgalls by æther, in the way recommended by Pelouze, this acid presents itself as a non-crystalline, white solid, sometimes having a yellowish tinge. 100 parts of nutgalls yield from 35 to 40 parts of tannic acid.

The following are the essential characteristics of this substance: it has an intensely astringent taste, and produces with a solution of gelatine a white precipitate (*tannogellatin*); with a solution of a persalt of iron a deep blue compound (*pertannate of iron*); and with solutions of the vegetable alkaline salts (namely those of morphia, cinchonia, quinia, &c.) white precipitates (*tannates*). The mineral acids also cause precipitates with concentrated solutions of tannic acid, as do the alkalies and their carbonates.

Tannic acid, as pure as it has been procured, has the following composition.

36 atoms carbon	.....	$36 \times 6 = 216$
18 atoms hydrogen	.....	18
24 atoms oxygen	.....	$24 \times 8 = 192$

1 atom tannic acid..... 426

2. *Gallic acid*.—Though we obtain nearly 20 per cent. of gallic acid from nutgalls, these excrescences contain very little of it, our produce being principally the result of the decomposition of the tannic acid. Nay, Pelouze thinks that even the small quantity of gallic acid which does exist in nutgalls, is formed by the action of the air on the tannic acid during or subsequent to, the process of drying these bodies.

The conversion of tannic into gallic acid is effected by the agency of the air, the oxygen of which is absorbed, while an equal volume of carbonic acid is evolved. When the air is excluded, no gallic acid is formed.

Pure gallic acid is a colourless, crystallizable solid, with an acidulous and styptic taste. It produces a deep blue colour with the persalts of iron, in which circumstance it agrees with tannic acid; but it differs from the latter acid in not precipitating gelatine or the vegetable alkaline salts.

When heated to 410° or 420°, it gives out carbonic acid, and is resolved into *pyrogallie acid*; but if the heat be raised to 480°, both water and carbonic acid are evolved, and a substance termed *metagallic acid* is produced.

The composition of gallic acid is,

7 atoms carbon	.....	$7 \times 6 = 42$
3 atoms hydrogen	.....	7
5 atoms oxygen	.....	$5 \times 8 = 40$

1 atom gallic acid..... 89

3. *Ellagic acid*.—This is another acid contained in galls; or rather it is obtained

from galls, in the process for procuring gallic acid, so that it is probably a product, and not an educt. It is a white insipid powder, producing a blood-red colour with nitric acid. It is composed of

7 atoms carbon $7 \times 6 = 42$

2 atoms hydrogen 2

4 atoms oxygen $4 \times 8 = 32$

1 atom ellagic acid 76

Physiological effects.—As nutgalls contain a larger proportion of tannic acid than any other vegetable productions known, they possess in the highest degree the astringent property.

Recently, some experiments on the effects of tannin on animals have appeared in the medical journals [see *MEDICAL GAZETTE* for April 29, 1837]. When this substance was given to dogs, to the extent of twelve grains, it caused constipation, and, on opening the animals, the intestinal mucous membrane was found dry, and the fæcal matter hard and collected in the colon.

Uses.—Nutmalls have been employed as a tonic in intermittent fever, and also as an astringent in alvine hæmorrhage and old diarrhœas. But the principal internal use of these agents is in some cases of poisoning. Thus they are given in poisoning by tartar emetic, ipecacuanha, emetine, and probably in all cases in which a vegetable alkali has been swallowed. They also deserve a trial in vegetable poisoning, when an organic alkali (or an organic alkaline salt) is the active constituent (as in opium, nux vomica, &c.) The efficacy of the galls depends on the union of their tannic acid with the vegetable alkali, and the formation of an insoluble (or less soluble) compound.

Externally nutgalls are employed wherever a powerful astringent is indicated. We form them into gargles, lotions, and injections, and sometimes even into ointments. The unguentum gallæ, applied to the anus, is sometimes a most beneficial agent in hæmorrhoidal affections; it has also been used in prolapsus ani.

Administration.—The dose of powdered galls is from ten to twenty grains. The infusion or decoction (prepared with four drachms of galls and six ounces of water) may be given in doses of one or two table-spoonfuls. The tincture is principally employed as a test; but it may be given internally to the extent of one or two drachms. The ointment is prepared by mixing a drachm of finely powdered galls with an ounce of lard. When this preparation is employed as an application to painful hæmorrhoids, it will be frequently found serviceable to combine half a drachm, or a drachm, of powdered opium, and about the same quantity of camphor.

POLYGALACEÆ.

Polygalaceæ, or the *Milkwort* tribe, yields us two plants only which are employed in medicine; one of these is

Polygala Senega.

In the early part of the last century the root of this plant was introduced into medicine as a remedy for the bites of venomous animals, by Dr. Tennant, a Scotch physician residing at Pennsylvania.

The plant is a native of the United States, growing most abundantly in the southern and western parts. Its height is from nine inches to a foot; the leaves are alternate and lanceolate; the flowers are arranged in a close spike (or as Decandolle terms it, a subspiciform raceme), at the summit of the stem. The calyx is five-leaved, two of the leaves (called *alæ*) being larger than the others, oval, and white with green veins; the fruit is an elliptical capsule. In the Linnean arrangement this plant belongs to class *Diadelphica*, order *Octandria*.

The root (called *Senega*, (or *Seneka*) *snake root*, or *rattlesnake root*) is imported from America in bales. It varies in size from that of a writing quill to that of the little finger; it is contorted, presents a number of eminences, and terminates superiorly in an irregular tuberosity, which exhibits traces of numerous stems: a projecting line extends the whole length of the root. The cortical portion is corrugated, transversely cracked, thick, of a greyish yellow colour. The central portion (*medullium*) is woody and white. The taste of the root is at first sweetish and mucilaginous, afterwards acrid and pungent, exciting cough and a flow of saliva: its odour is peculiar and nauseous.

A considerable number of analyses of this root have been made—namely, by Burckhard (1750), Keilhorn (1765), Hel-muth (1782), Gehlen (1804), Fougerson (1811), Peschier, Feneulle (1826), Dulong (1827), and Folchi (1827). The following are the constituents according to Dulong:—

1. Volatile oil (very little.)
2. Fatty-like wax.
3. Resin.
4. Yellow extractive.
5. Acrid extractive.
6. Gum.
7. Pectic acid.
8. Woody fibre.
9. A substance which is reddened by concentrated sulphuric acid.
10. Supermalate of potash and lime.
11. Sulphate potash.
12. Chloride potassium.
13. Phosphate lime.
14. Iron.

Active principle of Senega root.—The active principle of the root, whatever its nature may be, resides principally in the cortical portion; indeed, the medullium is said by Dr. Wood (*United States Dispensatory*) to be “quite inert.” This principle is extracted by water, by dilute spirit, and by alcohol; though the alcoholic is less acrid than the watery solution.

The active principle has been at different times asserted to be an extractive matter, a resin, an alkaline matter; but at the present day its nature is not clearly made out, notwithstanding the numerous analyses of the root which have been made. *Senegin*, *Polygalin*, *Isolusin*, and *Polygalic acid*, are terms applied to supposed peculiar principles of Senega.

Physiological effects.—Sundelin took a scruple of powdered Senega root every two hours: it caused irritation of the back part of the tongue and throat, and gave rise to an increased flow of saliva. These effects were soon followed by considerable burning in the stomach, nausea and vomiting. The skin became warmer and moister; there was griping pain of the bowels, followed by watery evacuations; the secretion of urine was increased, and a feeling of heat was experienced in the urinary passages. For some days after there was gastric uneasiness, with loss of appetite. In larger doses Senega occasions burning pain in the stomach and bowels, violent vomiting, purging, anxiety, and giddiness.

From these as well as other data, Senega is regarded as an acrid substance; when taken in large doses acting as an emetic and cathartic.

It appears to excite moderately the vascular system, to promote the secretions (at least those of the kidneys, skin, uterus, and bronchial membrane), and to exert a specific influence over the nervous system. It has been principally celebrated for its expectorant effects.

Sundelin considers Senega analogous in its operation to *Arnica montana*.

Uses.—This root is now very little employed in medicine. It was introduced into practice as a remedy against the bite of the rattlesnake. As an expectorant it has been administered in some affections of the pulmonary organs admitting of the use of stimulants. Dr. Archer has extravagantly praised it in *Cynanche trachealis*. As an emetic it has been employed at the commencement of pulmonic affections. It has been given in rheumatism as a diaphoretic, dropsy as a diuretic, in amenorrhœa as an emmenagogue, and in various other complaints.

Administration.—The dose of powdered senega is from ten to twenty grains. The decoction may be employed in doses of from one to three ounces.

Krameria triandria.

This plant was discovered by Ruiz in 1779.

It is a native of Peru, growing abundantly in the provinces of Huanuco, Huamalies, and Canta. It is a shrub, having a long, branching root; a procumbent branching stem; sessile, oblong-ovate, pointed leaves, covered on both surfaces with long silky hairs; the flowers consist of a lake-coloured calyx of four leaves, a corolla of four petals, two spathulate and two scale-like, three stamina, and one pistillum (consisting of an ovate ovary, one style, and a simple stigma). The fruit is round, and beset with stiff reddish hairs. The Linnean class and order of the genus *Krameria* is, according to Sprengel, *Didymamia Angiospermia*; but some other Linneanists place the genus in class *Tetrandria*, order *Monogynia*. It is to be recollected that this particular species has only three stamina.

The root of *Krameria triandria* is termed in the shops *Rhatany* (*radix rhataniæ*). It is brought from South America. It is woody, and consists of a number of cylindrical long branches, varying in thickness from that of a writing quill upwards. These pieces consist of a slightly fibrous, reddish brown bark, having an intensely astringent taste,—and of a very hard, ligneous, medullium, of a yellowish, or pale red colour. The largest quantity of astringent matter resides in the bark, and therefore the smaller branches (which have a larger proportion of bark) are to be preferred.

Vogel, Trommsdorf, C. G. Gmelin, and Peschier, have analysed this root. The following are the constituents according to Gmelin:—

Tannin.....	38.3
Sweet matter	6.7
Mucilage (extracted by hot water, and containing no nitrogen)	8.3
Nitrogenous mucilage (extracted by cold water)	2.5
Lignin (with carbonate and sulphate of lime, silicic acid, &c.)	43.3
Loss	0.9
	<hr/>
	100.0

The most important constituent of this root is the tannin. It is this substance which enables an infusion of the root to throw down gelatine, and produce a dark brownish grey precipitate with the salts of iron.

Peschier announced the existence of a peculiar acid in this root, to which he applied the term *Krameric*; but there is reason to doubt the correctness of his statement.

Physiological effects.—Rhatany root is one of our most powerful astringents, and, like other vegetable substances of this class, its constitutional effect is tonic.

Uses.—It is adapted to all those cases requiring astringents, and which I have so repeatedly had occasion to notice. The powder, mixed with equal parts of orris root and charcoal, is employed as a tooth-powder. Dentists use tincture of rhatany, mixed with water, as an astringent wash for the gums.

Administration.—The dose of the powder is from ten to thirty grains. The infusion may be given to the extent of one or two ounces. A tincture may be prepared by digesting three ounces of the root in a pint of proof spirit, and flavouring by cinnamon or orange-peel: the dose is one or two drachms. The extract may be given in doses of ten or twenty grains.

The extract of rhatany which is imported from South America has considerable resemblance to kino. It is said by Stephenson and Churchill to be obtained by inspissating the expressed juice of the root. In Guibourt's work (*Histoire abrégée des Drogues*) there is a table showing the different effects of various reagents on kino, catechu, and this extract.

RHAMNACEÆ.

In this family we have—

Rhamnus catharticus,

An indigenous shrub, with terminal thorns, ovate serrated leaves, having four or six lateral nerves parallel with the margin or rib, and yellowish green, four-cleft, usually dioecious flowers. The male flowers have four stamina and one short style, without either ovary or stigma. The female flowers are smaller,—the style with the four stigmas projecting beyond the calyx. The fruit is a black berry (Nees von Esenbeck calls it a drupe), having four cells, in each of which is one seed (termed by Nees a one-seeded stony kernel). The Linneanists place this plant in class *Pentandria*, order *Monogynia*.

Buckthorn berries (as the fruit is termed in the shops) are about the size of what are improperly called juniper berries. They are black externally, and contain four seeds, surrounded by a deep violet red juicy parenchyma.

According to Vogel, the expressed juice consists of—

- A peculiar colouring matter.
- Acetic acid.
- Mucilage.
- Sugar.
- Nitrogenous matter.

The colouring matter is soluble in water, is reddened by acids, and made green by

alkalies. Vogel thinks that its proper colour is green, and that it only becomes purple by the action of the acetic acid which is developed in the ripe fruit. When the fruit is evaporated to dryness with lime, it constitutes *sapgreen*, or the *vert de vessie* of the French.

The purgative principle of buckthorn berries has not hitherto been determined. Hubert (who in 1830 published an analysis of this juice) endeavoured to prove that it was *cathartine* (the active principle of senna), but his experiments are far from being conclusive.

The berries, as well as their expressed juice, are powerful hydragogue cathartics, usually griping and causing great thirst, and sometimes operating with considerable violence. "Syrup of buckthorn," says Sydenham, "purges in a manner only water, and evacuates a great quantity of it." "It has," he adds, "but one ill property, viz. that whilst it is working, it makes the sick very thirsty."

Syrup of buckthorn is occasionally added to purgative and diuretic mixtures, but is seldom employed in any other way, or for any other purpose. The berries were formerly employed as cathartics, but their violent operation, and the sickness, griping, and thirst, occasioned by them, have led to their disuse. "They be not meete to be ministered," says Dodoens, "but to young and lustie people of the countrie, which doe set more store of their money than their lives." Sydenham found the syrup in one case most beneficial in dropsy, and "with the juvenile confidence of an experienced man, verily believed," as he tells, that he "had got a medicine that would cure any manner of dropsy;" but he found his "mistake in a few weeks."

The dose of the recent berries is a scruple; of the dried berries, a drachm; of the syrup and of the expressed juice, half an ounce or an ounce.

OBSERVATIONS

ON

THE STETHOSCOPE.

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AT the present time, when the discoveries of Laennec are well known, and when auscultation is generally practised, it may seem almost unnecessary to mention the following circumstances, with which I have ventured to introduce the subject of this paper.

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In the several acts of breathing, speaking, coughing, the surfaces within the chest with which the air is brought into contact are by its action thrown into sonorous vibrations, which are transmitted through the substance of the lungs, and thence communicated to the parietes of the chest; and these sounds in their transmission obey the laws that regulate the transmission of sounds generally, and become modified in their intensity, nature, and quality, by changes in the density of the pulmonary tissue—by the presence of different secretions in the bronchial tubes—and by the effusion of fluid into the cavity of the pleura.

Again, the motions of the heart, and the passage of the blood through its interior, are productive of sounds which are transmitted in a similar manner to the parietes of the chest, and which are modified by changes in the volume of the cavities of the heart, or in the thickness of its walls, and by disease of the membrane which envelops it, or of the valves by which its orifices are guarded: and it is found that each of these circumstances produces a modification peculiar to itself, and which is sufficient, in most cases, to characterize the condition on which it depends, and to enable us to form an opinion of the state of the contents of the chest, which is the more to be relied on, as resulting from the evidence of physical signs, which it is not in the power of the patient to alter or destroy. The perception of these sounds is, consequently, of the utmost importance to the physician. The simplest mode of obtaining it is by applying the ear immediately on the chest, but from the inconvenience of this method of proceeding, and from its impossibility in some cases, the stethoscope has been invented, which propagates to our ears the vibrations of the walls of the chest, and thus renders us sensible of them at a distance. By the discovery, then, of the stethoscope, or rather of the mode of investigation to which it is applicable, another sense became enlisted for the investigation of diseases of the chest, and the condition of organs, which are excluded from our sight, becomes known to us through the sense of hearing.

The following observations were made with the view of ascertaining how the stethoscope performs this office, and on what conditions its excellence depends.

OBS. 1.—If one extremity of the stethoscope be applied to the ear as usual, and the other be brought as near as possible to, without actually touching, the chest of a person, in whom the murmurs of respiration are unusually audible, no sound can be heard.

Now, the vibrations communicated by the parietes of the chest to the air within the stethoscope, must, in this case, be nearly the same as if the stethoscope and chest were in actual contact; very little sound can be lost by diffusion through the interval that separates them, when this interval is very small.

We may then infer, that, in these cases, no vibrations sensible to the ear are communicated from the chest to the air within the stethoscope, but that they are communicated almost solely to the material of the instrument.

OBS. 2.—If, in the same circumstances, one extremity of the stethoscope be applied as usual to the chest, and the other be brought as near as possible to, without actually touching, the cartilages of the ear, no sounds can be heard; the slightest contact is sufficient to establish the necessary connexion, and to render the sounds audible.

Hence, in these cases, the vibrations of the stethoscope are not communicated in such a manner as to be sensible to the ear, to the air within the stethoscope. The sounds are therefore communicated from the chest to the material of the instrument, and are thence propagated through the cartilages and solid parts of the ear to the auditory nerve, and may be heard distinctly through the stethoscope, by a person, who, from thickening of the tympanum, is deaf to sounds of far greater intensity propagated by air.

This property of the solid parts of the ear of transmitting to the auditory nerve the vibrations of solids, may, perhaps, aid us in discovering, in cases of deafness, if the nerve be affected, or if the obstacle be in the tympanum; in the former case, the ear would be insensible of the sonorous vibrations of a solid in contact with its cartilages; and, in the latter, it would perceive them distinctly, though equally insensible of ordinary sounds. The stethoscope is, then, an instrument that establishes a solid connexion between the walls of the chest and the auditory nerve, and that serves to transmit to the latter the vibrations of the former.

The organ of hearing consists essentially in the nerve of hearing, and in an

apparatus by which external vibrations are conveyed to it; and we find that in nature this apparatus is modified, so as always to be best adapted to the medium in which the animal lives. In ears which are formed for the perception of sounds in air, the air within the tympanum forms the medium of communication between the external air, which propagates the vibrations, and the nerve of hearing which is destined to receive them, this communication being only interrupted by the presence of thin membranes, which obey the slightest impulse of the air. In fishes, whose ears are intended for the perception of sounds in water, air is no longer the medium of communication, and there is no external appearance of the organ; the nerve is lodged in the cartilages of the head; the vibrations of the water are communicated to these cartilages, which are nearly of the same density as the water, and are by them transmitted to the nerve. And by the stethoscope, which is intended to render us sensible of the vibrations of a solid, we establish a solid connexion between the sounding body and our nerve of hearing, by which we are enabled to perceive vibrations of the solid far too feeble to be made sensible to us by the intervention of the air. By a modification of the instrument, in which water is made the medium of communication to the cartilages of our ears, we may render ourselves sensible of sounds in water, which, without some such contrivance, would never reach us.

I now proceed to consider the conditions on which the excellence of the stethoscope, in its ordinary construction, depends; and, as the most important of these conditions, I shall first speak of the material of which it is formed.

Laennec says, "The densest bodies are not, as analogy would lead us to suppose, the best adapted to these instruments. Glass and metals communicate less perfectly than bodies of inferior density the sensations produced by respiration. From this observation, which appeared singular, I wished to try bodies of less density, and made in consequence a cylinder of goldbeaters'-skin. This instrument is worse than all others. Bodies of moderate density, such as paper, light woods, and canes, are those which have constantly appeared to me preferable to all others. This result is, perhaps, in contradiction to an axiom in

philosophy, but it seemed to me perfectly constant."

This result, which Laennec considered as contradictory to an axiom in philosophy, is perfectly explicable from a knowledge of the laws of the propagation of sound. Vibrations once excited in a body, as the walls of the chest, will be communicated more perfectly to another body in contact with it, the stethoscope, as the material of the stethoscope more resembles that of the walls of the chest as a propagator of sound.

The stethoscope may, in fact, be considered simply as a medium to propagate the vibrations of one body to another body, and its excellence will mainly depend on the relation which its physical properties, considered as influencing the propagation of sound, bear to those of the bodies between which it is interposed. The metallic stethoscope, which Laennec found to be so bad, would be the best, if employed to propagate vibrations from one metallic body to another.

Vibrations excited by a watch in one plate of iron were communicated by a rod of iron and of wood, of the same size and figure respectively, to another plate of iron, and were heard by the ear placed in contact with the latter. The sounds were much louder, and of a different *quality*, when the communication was made by the metal, than when it was made by wood.

Again, wood propagates more perfectly than metals vibrations from one piece of wood to another.

Vibrations excited in a stethoscope of wood by the ticking of a watch in contact with it, were transmitted by a rod of iron and of wood successively to another stethoscope of wood, and were heard by the ear placed in contact with the latter. The sounds of the watch were heard with greater intensity when the rod of wood than when that of iron was interposed, and the sounds were of different *qualities*,—they were more *metallic*, if I may so speak, when propagated through the iron.

Thus, when sound is communicated from one body to another of the same nature by the intervention of a third body of a different nature, the quality of the sound will be modified by, and will partake of the quality peculiar to, this third body.

In the choice, therefore, of a material for this instrument, one should be selected that will not alter perceptibly the quality of the sounds which it is employed to transmit. This is the case with wood,—the sounds of the voice heard through the common stethoscope are not perceptibly of a different quality from those heard when the ear is immediately applied to the chest. With the metallic stethoscope this would not be the case; the sounds heard through it would be more metallic, and would approach nearer in quality the sounds of ægophony, and would consequently render those sounds less characteristic, and would detract from their value as a pathognomic sign.

Laennec observed that this was the case with persons whose voices partook of the character of ægophonic sounds.

The same phenomenon is observed in a striking degree with the water-stethoscope.

A membrane was fastened over one extremity of a hollow cylinder; the cylinder was filled with water, which caused the membrane, whose area was larger than the surface to be covered, to protrude beyond the extremity of the cylinder; the other end was then closed by a membrane in a similar manner. The membranes were impervious to water, and care was taken to prevent the admission of air. By properly adjusting the pressure at the two extremities, the water could be made to protrude slightly beyond both, and thus a water-stethoscope is formed.

The respiratory murmur was heard through this instrument, though with less intensity than through the common stethoscope, but when it was applied to the trachea of a person speaking, a modification of the quality of the sounds was produced,—they resembled somewhat those of ægophony.

I have observed similar changes in the quality of sounds transmitted through water, under other circumstances, and have been led to doubt the correctness of the usual explanation of the phenomenon of ægophony, by which it is made to depend on a succession of echoes, and to consider it simply as the modification of the quality of the sounds by passing through a liquid.

Now, through a well-formed stethoscope of wood, the sounds of auscultation are not only not perceptibly altered in quality, but are heard with almost the

same intensity as when the ear is immediately applied to the chest: whence it follows, that the sound, in its communication from the chest to the stethoscope, suffers but little reflexion. It follows also from this, that the indications of the instrument are true, as far as the wood is concerned, or that it can give no note of its own—a circumstance that might happen, in strong vibrations, if the material of the instrument differed much in its properties as a propagator of sound, from those of the bodies between which it was interposed.

There is, however, an apparent exception to this. Laennec says, that in auscultation of the voice the instrument should be used with the plug or obturator; that if this precaution be neglected, we may sometimes be deceived by an unusual resonance of the voice, which depends solely on the instrument, or that the instrument has, in this case, a note of its own. This must depend on the column of air within the stethoscope, which, as we have already seen, is not thrown into sensible vibrations in the feebler sounds of auscultation, but which, in louder ones, as in those of the voice, may sometimes be excited by particular notes with which it can vibrate in unison; and the introduction of the plug prevents this unusual resonance by diminishing the volume of the column of air on which it depends.

Another case in which Laennec recommends the use of the plug, is in auscultation of the heart. As the sounds heard in this case are always too feeble to produce the note of the instrument, the use of the plug can only be to oppose to the chest a body of greater solidity, which will consequently propagate more perfectly the *impulse* of the heart against the side of the chest.

The material of which the stethoscope is formed should also be uniform in its texture.

Pieces of cotton wadding were gummed on the ends of a common trumpet-shaped stethoscope of wood, and parts corresponding to the hollow of the instrument were punched out. When this was applied lightly to the chest and ear, the respiratory murmur was heard very faintly; as the pressure was increased the sounds became more audible. When pieces of cork were substituted for the wadding the sounds were much more audible.

Hence, a diminution of sound results

from the addition at each end of the stethoscope of substances different from wood, and this diminution is less as the foreign substances resemble wood more nearly as propagators of sound.

This is in accordance with a principle in acoustics, that when sounds are propagated through any medium, they will generally undergo a reflexion at any change of medium, and that the reflexion will be more complete, and consequently the transmitted sound more feeble, as the media differ more in the physical properties that influence the propagation of sound. For example, when a sound propagated in air meets a plane surface of water, it is strongly reflected, and produces an echo, while the transmitted sound, or that heard by a person immersed in the water, is extremely feeble.

The inference from this is, that the stethoscope should be of one piece. There is, however, a practical objection to this with respect to the ear-piece of the trumpet-shaped stethoscope; the wood which appears by trial to be best adapted to these instruments is brittle, and it seems advisable to form the ear-piece of ebony, by which the instrument will be more durable, and from the resemblance which ebony bears to the material of which the stethoscope is usually made, the obstruction to the sound from this cause will be almost, if not quite, insensible. The ebony or ivory ring which is frequently placed on the other end of the stethoscope, is of no practical advantage, and should be dispensed with.

To ascertain the effect of the hollow of the stethoscope, I caused two to be made of the same size and figure, and of the same piece of wood; one solid, the other hollowed as usual. The sounds were heard through both, but more distinctly through the hollow one. This observation was made by Laennec when performing the experiments that led to the construction of the instrument. The sounds are, then, strengthened by the hollow, perhaps from its permitting the vibrations of the wood to take place more freely.

Influenced by this idea, I caused one to be made as thin as possible, and compared it with one of the same material, similar in its construction, and of ordinary thickness; the form and dimensions of the hollow being the same in both.

The difference was slight, but appre-

ciable, and in favour of the thin one. If this observation should be confirmed, it will be advisable to reduce the thickness of the instrument as much as possible, without too far impairing its strength; and, in the trumpet-shaped stethoscope, this may be done to a considerable extent, owing to the smallness of the cylinder that forms the stem, on account of which it is enabled, with a given thickness, to resist greater pressure tending to crush it.

From the accuracy with which sonorous vibrations, once excited in wood, are propagated through its substance, the length of the instrument cannot have much influence on its properties.

When the edge of a sixpence was drawn against one end of a deal bulk whose length was fifteen feet, it was heard distinctly through a pole several feet in length used as a stethoscope, one end of the pole being applied to the end of the fir opposite to that on which the sixpence was drawn.

In the original construction of the stethoscope, the form and material were such as to propagate the sounds with little diminution of intensity, but no attempt was made to heighten them. This, however, has since been done by terminating the trumpet-shaped stethoscope of wood by a small tube instead of the common flat ear-piece. The sounds are, in this case, concentrated towards the tube which is placed in contact with the cartilages forming the external meatus. Some exaggeration of the sounds is, undoubtedly, obtained by this; but the difficulty, when employing it, of keeping the tube in steady contact with the cartilages of the meatus, is sufficient to prevent its adoption.

The same contrivance has been more happily applied in the gum-elastic stethoscope or ear-trumpet, in which the flexibility of the instrument allows us to keep the terminal tube in contact with the cartilages of the meatus, and, at the same time, to apply the cup to different parts of the chest.

In this instrument, when used as a stethoscope, as well as in the other, the material of which it is formed conveys the sound; for if, while the cup is in contact with the chest, the tube is withdrawn in the slightest degree from contact with the cartilages of the ear, the sounds of respiration become inaudible.

The magnifying power of the ear-piece, in this case, is readily perceived

by employing, alternately, the gum-elastic stethoscope with the terminal tube, and the common flat ear piece. The sounds will be much more feeble when the latter is used.

The foregoing observations may tend to render our ideas more definite respecting an instrument we are in the daily habit of using, and may, perhaps, serve to prevent attempts at its improvement, founded on erroneous notions of its mode of action.

Some, under the idea that the sounds were propagated principally by the air, have calculated the form of the hollow so that the undulations of the air within it should be propagated most perfectly to the tympanum.

Others, apparently influenced by the same idea, have recommended that the ear-piece should be hollowed so as to prevent pressure on the anterior cartilage of the ear (the tragus), by which the external meatus would be stopped.

Others again, and among them M. Piorrey, imagining that the sounds must be louder as the body is more dense, have again tried the metallic stethoscope, and have confirmed the observation of Laennec. But none have succeeded in materially improving on the original construction; the persevering mind of Laennec, by continual experiment, and by relying on its own observations, brought the instrument to the perfection in which we now have it, and that not only unaided by any just views, but even led away by erroneous notions, of the laws of acoustics.

An instrument somewhat similar to the stethoscope in its construction, and in the objects which it was intended to fulfil, was contrived by M. Colladon, when he was engaged in making experiments on the velocity of sound in water, at the Lake of Geneva.

In all preceding experiments for this purpose, sounds excited in water at a considerable distance were heard by divers, or by persons having their heads immersed in the water, a situation ill adapted for making any observations worthy of confidence. It occurred to M. Colladon, that sounds excited in water might be rendered audible at a great distance to an observer out of water; and this he effected by the following ingenious contrivance:—

“He plunged vertically into the water a thin tin cylinder, about three yards long, and eight inches in diameter,

closed at the lower end, and open to the air above; thus forming an artificial surface on which the sonorous waves impinging perpendicularly, might enter the air, and be thence propagated freely as from a new origin. This contrivance succeeded completely, and he was enabled by its aid to hear the strokes of a bell under water, across the whole breadth of the Lake of Geneva, from Rolle to Thonon, a distance of about nine miles.”

I have omitted the details of this experiment, which are fully described by Sir J. Herschel, in his article on Sound, in the *Encyclopædia Metropolitana*, from which I have extracted the two following passages:—

“In the course of these experiments a very curious and important observation was made by M. Colladon, with respect to the effect of interposed obstacles. Sounds in air spread round obstacles with great facility, so that by a hearer situated behind a projecting wall, or the corner of a building, sounds excited beyond it are heard with little diminution of intensity; but in water this was far from being the case. When the tin cylinder or hearing-pipe, already mentioned, was plunged into the water, at a place secured from rectilinear communication with the bell by a projecting wall running out from the shore, whose top rose above the water, M. Colladon assures us that a very remarkable diminution of intensity in the sound was perceived, when compared with that heard at a point very near the former, but within reach of direct communication with the bell; or, so to speak, out of the *acoustic shadow* of the wall. Thus the phenomena of sound in water approximate in this respect to the linear propagation of light, and may lead us to presume that in a medium incomparably more elastic than water the shadow would be still more perfect, and more sharply defined. A material support is thus afforded to the undulatory theory of light, against one of its earliest and strongest objections, the existence of shadows.”

“He also observed, that although the sound of the blow was well heard in air directly above the bell, yet the intensity of the sound so propagated diminished with great rapidity as the observer removed from its immediate neighbourhood, and at two or three hundred yards it could no longer be heard at all. This

fact renders it probable that waves of sound, like those of light, in passing from a denser into a rarer medium, undergo, at a certain acuteness of incidence, a total reflexion."

The knowledge of these facts we owe to the contrivance of M. Colladon, by which sounds in water were rendered audible to a person out of water; but the instrument employed by him is only fitted to convey sounds of considerable intensity, and is consequently only adapted to the performance of the experiment on a large scale. It is probably owing to this circumstance that his experiments have never been repeated.

The water-stethoscope, which I have already described, is admirably adapted to investigations of this nature. If one extremity of the instrument be immersed in the water, and the other applied to the cartilages of the ear, the slightest sounds excited in water are heard with great clearness and precision.

It occurred to me that with an instrument of this kind I might repeat, on a small scale, the experiments of M. Colladon, and that similar observations might be made with respect to sounds excited in mercury and other liquids, by employing, instead of water, the liquid in question; and in this I completely succeeded.

Sound was excited in a tub of water lined throughout with flannel, by striking two small bodies of iron together, and was heard by means of a water-stethoscope*, one extremity of which was immersed in the water. The sounds heard were much louder than, and of a different quality from, sounds excited by the same cause in air; but when a bladder containing a small quantity of air was immersed in the water, and interposed as a screen between the sounding body and the stethoscope, the sound became almost inaudible. The difference in the intensity of the sound when the stethoscope was placed over the screen, that is, in the *acoustic shadow*, or without it, was very striking.

I tried different screens, such as

* The stethoscope used in this instance was not formed of a simple cylinder, but of two cylinders joined together, having the same axis, and of 1 and 4 inches in diameter respectively.

The object of this was, by placing the smaller end in the water, to examine the sounds in a more limited extent of the water than could be done with a simple cylinder of the same diameter as the larger end.

plates of metal, porcelain, glass, &c. but did not obtain the same result. These substances do not sufficiently interrupt the passage of sound in water, but propagate it from the water below to that above them.

Again, sounds were excited in water as before, and a screen of air was immersed over the sounding body, so as to intercept the direct waves, and allow those only to reach the surface of the water that fall on it with considerable obliquity. The sounds were almost inaudible in air; when the screen was removed, they were instantly heard distinctly. This confirms the second observation of M. Colladon, that waves of sound, in passing from water into air, undergo, at a certain acuteness of incidence, a total reflexion. By performing the experiments with the requisite care, the precise angle at which this happens in water and other liquids might be determined.

I have adduced these instances for the purpose of showing that the stethoscope must not be considered solely as an instrument in the hands of the physician for the purpose of ascertaining the physical state of the contents of the chest. As the common ear-trumpet, it conveys to the tympanum sonorous vibrations in air, undiminished by diffusion,—as the stethoscope, it transmits to the cartilages of our ears the vibrations of the chest,—and, with slight modifications adapted to the difference of circumstances, may be employed with advantage by the philosopher, in the investigation of the phenomena of sound in solids or in liquids.

BLOW ON THE SIDE—PERITONITIS —ULCERATION OF BOWEL— APERTURE IN DIAPHRAGM— GANGRENE OF LUNGS.

To the Editor of the Medical Gazette.

SIR,

SHOULD you consider the accompanying communication suited to the pages of your journal, you will, by affording it a place, at an early opportunity, oblige

Your obedient servant,

H. M. HUGHES, M.D.

Physician to the Surrey and to the South
London Dispensary.

St. Thomas's Street, Southwark,
April 26th, 1837.

Thomas William Wright, aged 10 years, of florid complexion, active in habits, cheerful in disposition, and usually enjoying perfect health, was brought by his mother to the Surrey Dispensary, on March 9th, 1837, leaning forward, and to the right, with his hand pressed against the side, to alleviate the pain he was suffering: he was ordered home directly to his bed, whither I followed him in a few minutes. The account I then received was, that five days before he complained of pain in the right side on moving the right leg, that this continued the next day, and that in the night he was seized suddenly with violent vomiting and pain in the stomach, having taken some meat-pie for his dinner. The vomiting had since constantly recurred on taking nourishment, but there had been administered some castor oil, which had acted on his bowels. There was no distress of countenance, the skin was cool, the tongue clean and moist, and the pulse nearly natural, but rather frequent; the respiration was easy, and the abdomen generally neither tender nor tumid; but he complained of pain over a space about as large as the palm of the hand, in the centre of the right iliac region, which felt unnaturally firm and resistant, and together with the scrobic. cordis, was tender on pressure. He lay easily, with the legs extended in bed, and when quiet, suffered little or nothing; the ejected fluid was of a dark green colour, like that produced by the admixture of acids and bile: the bowels had been relieved that morning.

Pulv. Rhei c. Hydr. Submur. gr. viij. st. Hirudines iv. parti dolent. et postea fots papaver. Haust. Efferv. 3j. 6tis horis.

March 10th.—I this day heard that the patient, on the day before he first experienced any inconvenience in the side from moving his leg, had been kicked by a man in that situation. The powder had been vomited, and he had passed a sleepless night; the sickness continuing at short intervals, and the ejected fluids being of a deep grass-green colour: the pain on motion was increased, and the tenderness of the abdomen had now become general; there was slight tension of the belly, and the patient lay with his legs and thighs flexed; the skin was rather hot; the tongue furred, moist, and rather creamy; the pulse was frequent and small, but

hard, and difficultly compressible; the countenance was nearly natural; he had had no evacuation by the bowels.

Rep. Pulv. gr. x. st. V.S. ad prim. sign. deliquii, vel ad 3vj. Sinapism. scrobic. cord. bis die applicand.

R Magnes. Sulph. 3iv. Inf. Sennæ 3iss. Enem. com. 3vj. M. ft. Enem. st. injiciend. Pulv. Ipecac. c. gr. ij. Hydr. Submur. gr. ss. 4tis hor.

In the evening I found that the rhubarb powder had been again rejected, but the Dover's powder, with calomel, retained; the injection had not immediately returned, but had produced no effect. About 3vij. of blood had been abstracted, which was moderately cupped and buffed; his pulse was now soft and more easily compressed, but frequent; the tenderness was less, but the vomiting continued unabated.

R Ol. Crotoni Tiglii gtt. ss.; Micæ panis q. s. ut ft. pil. st. sumend, et si rejiceret ventricul. in hor. ij. repetenda, si autem retineret, in hor. vj. Contin. Pil. et Fots. Rep. Enem.

11th.—No evacuation from the bowels; purgative pills were rejected, the others had been retained; tenderness had decreased, but was still very great, and distension of abdomen was more decided than previously; vomiting was frequent; and the pulse small, weak, and easily compressed.

Pil. Coloc. c. Hydr. Submur. gr. x. st. Catapl. Sinapis. scrob. cord. et Catapl. Lini abdomini applicand.

This afternoon my colleague, Dr. Barlow, kindly visited him with me: we agreed that general bleeding was not likely to be advantageous. We therefore ordered

Hirudines viij. abdomini et postea catapl. et Ol. Ricini, 3iss.; Tr. Opii, mxx.; Decoct Hordei, Oiss. M. pro enem. st. injiciend. et repet. vesperè; Contin. Pil. Ipecac. C. &c.

12th.—Symptoms remained much the same; he suffered a good deal from the distension produced by the clyster; countenance expressive of anxiety; pulse weaker, and enlargement of the abdomen increased.

Hirudines vj. abdomini. R Sp. Terebin. 3ss. Ol. Ricini, 3j.; Decoct. Hordei, Oj. Fiat. enem. st. injiciend. Rep. Pil.

13th.—No alteration, but he suffered less from the administration of the turpentine enema than the others, and experienced relief from the poultice which

was kept constantly applied to the abdomen.

Rep. Pil. et Enem. c. Decoct. Hordei, \mathfrak{z} vj. bis die. Sinapism. Scrobic. Cord. applicand.

On the 14th, he was ordered—

Empl. Lyttæ magn. abdomini. Hydr. Submur. gr. vj.; Opii, gr. $\frac{1}{4}$. M. ft. Pil. st. sumend. et rep. in hor. iij. si opus erit.

On the 15th.—

Hydr. Submur. gr. ij.; Muriat. Morphiæ gr. $\frac{1}{8}$; Sacchar. Alb. gr. iij. M. in form. pulv. st. sumend. et rep. 4tis hor.

16th.—The blister had risen well, and though all the medicines were said to have been rejected, the sickness and tenderness were less, and a slight fluid motion had been passed.

Rep. Pulv. Applicet. Cataplasma. ut antea et Capt. Haust. Effervescentem 6tis hor.

17th.—He had passed several small fæculent fluid motions; the tenderness, distension, and general uneasiness, had decreased; and the vomiting had ceased, but the abdomen was still tender, and the pulse weak and frequent.

Ol. Ricini, \mathfrak{z} ij. st. sumend; sed si rejiceret ventricul. capt. in hor. ij. Ext. Col. C. gr. iv. et rep. 4tis hor. ad plen. alv. solut.

19th.—Had passed several motions, with large quantities of solid and a small portion of fluid fæces of natural colour and appearance; the castor oil had been rejected, but the pills retained, and since the oil he had had no return of vomiting; abdomen nearly natural as to size, but still tender, now principally on the right side over the ascending colon; countenance much improved; he still lay with the thighs flexed; had had little or no sleep, and the pulse was very feeble.

Hydrarg. c. Creta, gr. j.; Ext. Hyosciam. gr. iis. Ext. Col. c. gr. ij. M. ft. Pil. 6tis hor. sumend. ex Mist. c. Mucilag. Acaciæ. Weak beef tea, animal jellies, and arrow root.

20th.—Bowels much relaxed; evacuations fæculent and fawn-coloured; abdomen flat; no sickness; countenance again depressed; had had no sleep; pulse very weak; refused all support, excepting milk and water.

R Mist. Cretæ, \mathfrak{z} jss.; Mucilagin. Acaciæ, \mathfrak{z} ij.; Syr. Papaver, \mathfrak{m} xx.; Tr.

495.—xx.

Catechu, \mathfrak{m} xv.; M. ft. haust. post sing. sed. liquid. vel 4tis horis sumend.

21st.—Bowels less frequently acted upon; had enjoyed a little sleep at intervals; a spoonful of soft boiled egg had been given and immediately rejected.

Rep. Mist. 6tis horis.

22nd.—Bowels again very frequently moved, evacuations fluid, and much resembling those occurring in chronic dysentery, of a uniform consistence and appearance, and a brownish drab colour, passed with considerable force; his little remaining power was now reduced; he had not slept; had no pain when quiet, but there was still tenderness on pressure in the right side.

Rep. Mist. c. Tr. Cinnam. C. \mathfrak{m} xv. 4tis hor.

R Syr. Papaver. \mathfrak{z} iss.; Decoct. Avenæ, \mathfrak{z} iv. M. ft. Enem. st. injiciend. et rep. vesperè.

23rd.—Vomiting returned, but was not now bilious as formerly, and occurred only on food or medicine being taken into the stomach; he experienced much relief for several hours, and had some comfortable sleep after the injections; diarrhœa continued.

Cont. Mist. et Injiciat. Enem. ex Decoct. Amyli, \mathfrak{z} iv. et Syr. Papaver, \mathfrak{z} j. bis terve die.

24th.—He was evidently sinking; diarrhœa and vomiting continued; the pulse was thread-like and frequent; the features sharpened and sunk; the expression languid and dejected; he lay prostrate, with the legs raised and widely separated; the evacuations were more fluid, sometimes passed involuntarily, and in other respects as formerly described. The mixture and enemata were continued; sago and port-wine, soda-water and brandy, and very small doses of sulphate of copper and opium, were tried, but all rejected, (the last immediately, the soda-water after a considerable time;) and he sunk exhausted on the morning of the 28th.

Inspection, 28 hours after death.—External appearances were, great emaciation; ecchymosis from leeches; discoloration of abdomen and lower part of the thorax from incipient putrefaction; slight ulceration over the sacrum from pressure. The head was not opened. Thorax—the pericardium and heart were natural. On the left side

the pleuræ were connected by old partial cellular adhesions; the lung was healthy, excepting that at the posterior part there existed some consolidation and softening from gravitation, almost amounting to the "*pneumonie des agonisants*." On the right side the pleuræ were adherent, pretty generally, by soft and opaque plastic lymph, connecting the lung to the diaphragm, as well as to parietes of the chest. The lung itself was generally crepitant and healthy, but at the base was a large patch, the size of the palm of the hand, and having its entire circumference firmly connected to the diaphragm by soft plastic lymph, in a state of gangrenous ulceration. The surface was irregular, ragged, and dark-coloured, the pulmonary tissue at some points being deficient to the depth of one-third of an inch, and at others less; the vessels, (some of which were examined and found to be filled with coagulum,) and the branches of the bronchia traversing the space in different directions. Around this there existed in the lung masses of various sizes, of a dirty fawn colour, soft, and destitute of air, containing the soft brown effusion of a low form of pneumonia, and separated by no exact line of demarcation from the slightly consolidated tissue in their immediate vicinity. Opposite to this was a large ulcerated opening, with loose ragged edges, through the diaphragm. On opening the abdomen a disagreeable fæcal odour was perceptible, and there was immediately exposed to view on the right side a large cavity, capable of containing from one to one and a half pints of fluid, but absolutely holding only about $\frac{3}{4}$ v. of dirty purulent serum. It was bounded above by the diaphragm and ulcerated lungs; on the inner side by the convex surface of the liver, (which had been pressed down by the fluid, and the right edge of which projected into the cavity,) by the adherent small intestines and colon; on the outer side by the abdominal muscles, which firmly adhered to the intestines at the margin; and below by the cæcum and the iliac fossa. The cavity was lined throughout with a thick layer of dirty yellow flocculent unorganizable lymph. On puncturing the ascending colon, inserting a blow-pipe, and inflating the intestine, air was found to escape, and on slitting up the tube there were discovered three rounded ulcerated open-

ings about one inch apart, one as large as a fourpenny piece, and the other two about the size of a split pea. On the peritoneal surface they presented a sharp angular edge, but internally a rounded white elevated border. The arch of the colon was red from injection in patches; the descending colon and cæcum appeared healthy, but each contained a few small masses of very hard and dry fæces. The small intestines were adherent to the abdominal muscles, and to neighbouring convolutions, by a tender false membrane, and though slightly injected at some parts were not generally red. On separating adjoining folds, there were here and there small collections of pretty healthy pus, amounting from 3ij. to 3ss.; while at other parts, on this separation being effected, there escaped a small portion of fæculent matter; the ulcerated spots, or openings, having being previously filled up by the fold of bowels in approximation with them. On the left of the mesian line, between the fibres of the rectus muscle, just above the pubes, was a depôt of fæcal matter, which it was clear had recently escaped from an opening in a contiguous and adherent fold of intestine, but neither could be accurately made out, as they had been disturbed and divided by the original section of the abdomen. That portion of the mucous membrane examined, with the exceptions above-mentioned, was in the main healthy, but there was occasionally presented a round white projecting body, similar in appearance to a suppurating tubercle, which, on a section being made, was found to contain fluid and pretty healthy pus, and to communicate with the small defined collections of matter previously mentioned; the contents of which were thus finding an exit through the bowel. The jejunum was pretty free from disease, even externally, and contained a considerable portion of healthy semi-solid fæces. The duodenum and stomach, to which the under surface of the liver was adherent, and on the peritoneal covering of which was one of the small depôts of matter referred to above, were not vascular internally, though the mucous membrane of the latter was in some parts much corrugated, thick, soft, and covered with a tenacious mucus. It contained about $\frac{3}{4}$ viij. of bilious fluid. The internal structure of the liver appeared healthy, with the exception of a dark greenish purple appear-

ance and softened texture, extending about one-third of an inch from the surface. Towards the right, its peritoneal coat was covered with the thick layer lining the cavity, but at other parts it was adherent to the adjacent viscera by *recent* false membrane. The gall bladder was healthy, and about one-third filled with bile. The spleen was in a normal condition, and the pancreas not examined. The bladder, ureters, and pelves of the kidneys, were slightly distended, though urine had been passed only eight hours before death, and, with the exception of a little sabulous matter in the left kidney, appeared healthy.

Remarks—The view taken of the preceding case during life was as follows:—A blow having been received on the right side, a partial peritonitis first ensued, which in a few days was succeeded by general inflammation of the abdominal serous membrane; that the obstinate vomiting and constipation were produced not alone, nor principally, by the general peritonitis, but by the mechanical effect of a collection of fluid, the production of the original local inflammation; that this pressure was afterwards removed; and that the vomiting and constipation ceased in consequence of this fluid finding an exit through an ulcerated opening in one or more of the intestines, to which, more than to inflammation of the mucous membrane, was attributable the diarrhœa occurring during the latter stages of the complaint. The examination after death curiously confirmed this view, and in addition revealed a most important lesion of the diaphragm and lung, which was not even suspected during life. The diagnosis appeared to be reasonably founded upon the following facts:—The original pain, and the defined tenderness and hardness, were referred to a part on which the boy was said to have received a severe kick; there was no general tenderness of the abdomen till the second day he was visited, and the sixth after the blow was inflicted; the local injury and hardness was over the situation of the duodenum, pressure upon which accounted for the free passage of bile into the stomach; vomiting and constipation continued for seven days, notwithstanding the administration of powerful purgatives and enemata, in itself indicative of mechanical obstruction; the vomiting ceased; the

bowels were relaxed, and the tension of the abdomen decreased almost simultaneously; there was constant pain and tenderness of the right side, latterly referred more particularly to the lower part of the ascending colon and cæcum, or their vicinity; the alvine evacuations, as observed in the reports, indicated the admixture of some purulent fluid, which the previous symptoms led me to suppose could not proceed from the mucous membrane. The condition of the lung and diaphragm is a curious circumstance connected with this case, particularly as my experienced friend, Dr. Hodgkin, unhesitatingly pronounced the diseased lung to be gangrenous. Two explanations, both attended with difficulties, may be offered of this condition,—either that it resulted from the direct and immediate effects of the blow, or that it was produced by the pressure of the confined effused fluid. Many persons, without being aware of the whole of the circumstances of the case, might, perhaps, suppose the former was probable; I must, however, confess, that the latter appears to me the preferable explanation, and for the following reasons:—1st. It is difficult to understand how an elastic and easily yielding tissue, like that of the lung, could be so seriously injured by a blow upon the abdomen, while the solid and friable liver, through which the force of the blow must have been conveyed to the lung, received no injury in its solid structure, or, at least, bore no marks of external violence. 2nd. The plastic lymph connecting the right pleuræ was soft and opaque, and evidently more recent than even that of the *general* abdominal cavity; and as it is probable that the pleuritis was the immediate result of the affection of the lung, it appears also probable that this must have been of short standing compared with the *first* peritoneal disease. 3rd. The patient during the whole progress of the complaint suffered neither from cough nor pain of the chest, nor was there ever observed that frequent and often characteristic symptom of phrenic pleuritis, the “*risus sardonicus*,” circumstances which are I think inexplicable, supposing this particular disease had existed for three or four weeks, but perhaps comprehensible if it occurred only a few days before the death of a person already exhausted by a previous complaint. I am therefore disposed to believe that the

ulceration of the diaphragm was a slow process, caused by pressure, and that the pneumonia resulting from this ulceration occurred only a few days before death, and assumed a gangrenous character in consequence of the extremely low condition of the vital powers, and of the unhealthy nature of the fluid with which it was in contact.

Though this case became the subject of a trial for manslaughter, it is not, I imagine, possessed of much interest in a medico-legal point of view, as few, if any, of my professional brethren will have any doubt that the boy's death, though no ecchymosis, abrasion, or other marks of violence, existed on the body, was caused by external injury, of his having suffered which direct evidence was produced: they will, at the same time, I think, agree with me that "it was possible the whole might have arisen from common causes."

As to some apparent inconsistencies in the treatment, I may observe that when the patient was first visited the complaint was entirely local; there was no constitutional disturbance; the pulse, tongue, and skin, were nearly natural: I then heard nothing of the blow, and the boy was perhaps somewhat exhausted by his walk to and from the Dispensary, all of which may account for the comparatively inactive measures adopted at that time. As to those adopted during the next six or seven succeeding days, I may remark that the venesection at once reduced the pulse, and that it never rose again, nor afterwards became sufficiently tense, hard, or strong, to justify, in my opinion, another *general* bleeding. Again, to some it may appear strange that active purgatives should have been prescribed in acute inflammation of the peritoneum, but it must be recollected that this was not a simple case of peritonitis, and that the most distressing symptoms were clearly dependent on obstruction of the alimentary canal, produced, as I then considered, and as I still believe, by the mechanical operation of a collection of fluid; on this account, I and several professional friends who visited the patient, considered that the most important benefit would result from relieving the bowels; but the vomiting was almost constant from regurgitation of bile into the stomach, and there was not the slightest chance of any fluid, or indeed any thing bulky, being retained, those

medicines that were capable of being administered in the smallest compass, and also acting efficiently, were therefore selected. It is quite clear that they did no good—it is equally evident that they could have produced no injurious effects, as all medicines were rejected as soon as swallowed, with the single exception of the pill composed of Dover's powder and calomel, which were themselves probably retained but a very short time. The relief afforded by the external applications was very striking: thus the sinapisms quieted the stomach for a longer period than any other remedy; the linseed poultice was most agreeable to the feelings of the sufferer; and it was soon after the blister had taken effect upon the skin that the bowels were first moved, and the vomiting ceased. The linseed poultice thinly spread, frequently changed, and large enough to cover the entire belly, I have often seen of most essential service in cases of peritonitis, not so much, possibly, by its having any material influence upon the progress of the complaint, though, even in this respect, it is not, perhaps, to be altogether despised, as by its removing the soreness and decreasing the pain. I mention this, though at the risk of its being considered both trifling and trite, because I believe that from its unpretending character in cases in which *heroic* remedies are usually alone esteemed, it is often neglected, though it in no way interferes with the employment of more vigorous means or more stimulating applications.

CASE OF
POISONING BY ARSENIC.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem the following case of arsenical poisoning worthy of a niche in your valuable columns, I shall feel obliged by its insertion. It is interesting from the enormous quantity taken (the greatest, I believe, on record), and, notwithstanding the very frequent vomiting, from its rapidly fatal termination.—I am, sir,

Your obedient servant,

JOHN COATES,

Surgeon to the General Dispensary,
Rochdale.

May 16, 1837.

About half-past ten o'clock, on the night of March 9th, 1837, I was called to James Ekroyd, æt. 23, having taken, as I was informed, two ounces of "mercury" (the name here vulgarly given to arsenic), for the purpose of committing suicide. On entering the room where he lay in bed, I found him vomiting very freely, the ejected matter consisting chiefly of oatmeal and water (given before my arrival to promote the vomiting), and mucus, enveloping a white gritty powder that subsided to the bottom of the receiving vessel, and which, from its appearance, I suspected to be arsenic. In the intervals between the fits of vomiting he lay on his back, with his hands pressing on the epigastrium, and seemed to suffer very trifling pain compared with the ordinary cases of arsenical poisoning. His pulse was 144, small, and somewhat intermitting; countenance and skin natural; and his mind perfectly calm and collected. He answered my questions unwillingly,—said he wanted no surgeon, but longed for death as the end of all his griefs and troubles; indeed, at first he refused to take any thing offered to him that might assist in the expulsion of the poison. He did inform me, however, that he had taken "two ounces of ground mercury" (powdered arsenic)—a quantity which I afterwards found he had purchased during the evening of a druggist in this town.

The whites of eggs beaten with a little water, milk, thick linseed tea, sugar and water, and gruel, were given very frequently in small quantities, at once to envelop the arsenic and produce its rejection from the stomach. In half an hour (11 o'clock P.M.) the pulse fell to 110, possessed greater strength and fulness to the touch; he even confessed that the little pain he had in the epigastrium was relieved; and I began now to entertain hopes of his recovery, referring this decided amelioration in the symptoms to the very full and free vomiting which had taken place.

At half-past 11 P.M. he had a large watery motion, preceded by and attended with a griping pain in the bowels, and intolerable itching of the anus; and during the following hour several similar evacuations, all unaccompanied by the least tinge of blood. The fits of vomiting continued at short intervals, and were assisted by the means before mentioned.

After midnight he began to complain of chilliness, from getting up to the night-chair; the pulse again became quicker, smaller, and intermitting, so that it could not be accurately counted. The countenance gradually assumed a haggard and contracted appearance; the vomiting and diarrhœa continued as before. He now lay for the most part on his back, frequently groaning heavily, his eyes half closed, and alternately tossing his arms about and pressing the epigastrium. To these succeeded general coldness of the body, clamminess, severe cramps of the legs, and slight convulsions. Fifteen minutes before 2 A.M. he complained of violent burning pain in the bladder, with urgent desire to make water. He got out of bed for this purpose, but passed no urine, and on lying down again was seized with a convulsion, in which he expired.

The absence of blood in the discharges from the bowels has been already noticed, and only once was there *a trace* in those from the stomach, as I entered the room. The symptoms altogether were far from severe, and much more closely resembled those of common cholera.

There was no medical evidence given at the inquest; and the worthy coroner deeming a post-mortem examination of the body equally unnecessary, there was none made; though it is highly probable that the morbid appearances, if any, would have been unequal to account for death, as not sufficient time had elapsed for inflammation and its consequences to be developed. The mucous membrane of the mouth and fauces did not appear in the slightest degree altered after death, as far as an imperfect inspection by candle-light enabled me to ascertain its condition.

On purchasing the poison, the man went to a sister's house, about a mile from town, and asked for a half-pint pot to fetch some water, saying he was very thirsty. He took the pot and went out to a pump near, where he took the poison, "washing it well down" (to use his own expression) with copious draughts of water. In a few minutes he returned into the house, having on his upper lip and each side of his mouth a white powder, and observing with a smile at the time that he had been taking a dose of salts. He remained but a short time afterwards, called to see his wife, telling her he

should return early, and passed through a halfpenny hatch on his way to visit another sister, at whose house I was called to attend him.

The distance between the residences of the two sisters cannot be less than half a mile. The hatch is usually closed at ten o'clock; and, I am informed by the keeper, was shut when the young man had passed. This is important, so far as proving that he could scarcely have had taken the poison then upwards of fifteen minutes (the hatch being half-way between the two houses); indeed, a most careful investigation of the various circumstances leads me to the opinion, that not more than four hours intervened from its being taken to the fatal issue.

The powder obtained from the vomited matter amounted to nearly half an ounce; and application of the usual tests gave unequivocal testimony to the presence of arsenic. Spontaneous vomiting had taken place largely before I was called in, whereby a considerable portion also would most probably be removed.

The deceased was singularly obstinate in refusing to answer my inquiries respecting the particular symptoms from which he suffered, expressing frequently an earnest desire to be let alone to die quietly. He was married only the preceding Sunday, and the cause of this rash act is merely conjecture.

SOLID NITRATE OF SILVER IN GONORRHŒA.

To the Editor of the Medical Gazette.

SIR,

I BEG to send you, as an appendix to the paper of Dr. Hannay on the Permanent Cure of the Gonorrhœa of Women by Solid Nitrate of Silver, the following extract from a paper read by me to the Glasgow Medical Society on the 1st of April; to which paper I cannot help considering Dr. Hannay's contribution to your valuable journal as an indirect reply.

The materials of my paper on the subject of the gonorrhœa of women were collected whilst I held the office of Clerk to the Glasgow Lock Hospital. As the attack on this essay has appeared in the pages of the *MEDICAL GAZETTE*,

I trust that you will not deny me the opportunity of defending myself through the same medium.

I have the honour to be, sir,

Your very obedient servant,

JAMES M'CUNE SMITH, M.D.

Glasgow, May 17, 1837.

1st. I deem the treatment of gonorrhœa in the female by the solid nitrate of silver a cruel practice, from the horror which those who have undergone it express at what they call the 'burning their inside with caustic;' and also from a fact, of which the journals of the house give ample evidence, that the Lock Hospital is always full whilst Dr. Cumin has charge of it, but, on the other hand, does not average above four-fifths full whilst under the charge of Dr. Hannay.

2dly. I deem the practice inefficient, because, of five patients who remained in the house on the 1st of January, 1837, 'cured,' according to the statement in the journal, by means of 'the solid nitrate of silver,' the discharge returned in all of them except one within a fortnight afterwards,—and that individual was dismissed on the 7th of January. Of the five patients above alluded to, in one the catamenia have not appeared since (whilst there is no sign of pregnancy) after a lapse of four months. A second, shortly after the application, was seized with a sanguineous discharge from the uterus, which, after lasting fifteen days, terminated in an early abortion. Another patient (B. K., page 341) stated, that on the very day of the application of the nitrate of silver, in the agony caused by it, she so strained the abdominal muscles as to cause double inguinal rupture, which she now labours under.

Cases of Relapse of Vaginal Discharge, after being cured by the Solid Nitrate of Silver.

A. C.	. . . . .	Page 372
E. J.	. . . . .	— 365
M. A. C.	. . . . .	— 369
E. M.	. . . . .	— 370
J. M'C.	. . . . .	— 285

(Page 7, Journal 1837).

The last patient having been dismissed cured to the Magdalen, and thence brought back to the Lock Hospital in consequence of a relapse, could not have been exposed to new infection.

CONNEXION OF UREA WITH GOUT.

To the Editor of the Medical Gazette.

SIR,

DR. COPLAND, in treating of arthritic headache, in the last fasciculus of his Dictionary of Medicine, would appear to propound a doctrine of gout as proper to himself, viz. that a superabundance of urea in the humours of the body is the principal cause of the disease. His words are—"that, in short, it (urea) is the *materies morbi* of the ancients, and constitutes a part of the morbid condition of which *I have shewn* gout to be the chief manifestation."

Now, sir, on the principle of *suum cuique*, I beg to observe that it was I, and not Dr. C., who was the first to ascribe this origin to gout.

Under the specification of podagra, in my Synopsis of Nosology, published in 1834, I have observed, that "I entertained a persuasion that this disease was connected with some peculiarity of sanguification, either hereditary or acquired, in which there are grounds for suspicion that urea, in some form or other, superabounds in the blood." This doctrine I also had previously taught in my lectures on medicine.

In the following year, when I published my treatise on Headaches, a work which Dr. C. has done me the honour to cite, I repeated the idea when treating of the very same disease (arthritic headache) in which Dr. Copland propounds it apparently as his own; and I have there adduced facts in support of it—such as Chelius's observation with respect to the effects of colchicum on the urine—the known efficacy of alkalies and other antacids on the same secretion, and in gout—the chemical constitution of tofi, &c., concluding with this remark:—"Now the probable inference from all the foregoing facts is, that gout is in reality occasioned by the superabundance of urea in the blood, generated in the intestines by an unhealthy process of digestion, induced by habits of luxury and indulgence; or it proceeds from the same cause, in consequence of the same morbid habit of the digestive organs of a hereditary nature."

That urea, or elements favouring its ultimate formation, are generated by a morbid peculiarity of digestion, and act an essential part in the production of gout, is an opinion I still entertain; and in this Dr. Copland concurs, it would seem. But unless he wishes that his work should be considered entirely a compilation of other people's ideas, perhaps it would be as well for the Doctor to let his readers know a little more distinctly than he has done, the indiscriminate meaning he attaches to the pronouns, so that there might be no misapprehension of the construction of the *meum* and *tuum*, except as a solecism peculiar to himself.

I remain, sir,

Your very obedient servant,
G. HUME WEATHERHEAD, M.D.

George-street, Hanover-square,
May 23, 1837.

THE LONDON APOTHECARY OF BY-GONE DAYS.

A SKETCH.

To the Editor of the Medical Gazette.

SIR,

IN the number of your GAZETTE for the 13th instant, you have made some observations on the "competition among medical practitioners." These observations are true to the letter, and no medical practitioner of ten years' standing can gainsay or deny them.

Things were not always thus. There was a time when less learning, and less keenness in the pursuit, made more money and a fairer character; and that time was not half a century ago. The physician and the surgeon of those days speak for themselves; but let it be the object of this paper to record the character of a race of men almost now extinct, viz.—the apothecaries of the City of London.

They were gentlemen who dressed in black, and wore knee-breeches and silk stockings, powdered hair, and polished shoes. They seldom acted except in deference to a physician, and they sometimes carried their trade to perfection, and rode in a chariot.

Their character shall be painted in a single individual of the species, and the

subject of the following picture shall be a full-length portrait from the life.

Eusebius was born in 1760, in one of the eastern counties of England. His early days were past in a desultory manner, in associating with farmers' boys, and in the usual routine of a rural life. That part of England in his time was a very different place to what it is now: the lands, which were once sheep walks, are now cultivated down to the very margin of the sea. He has often been heard to relate that he tended the flocks with the shepherd, and that he still remembers the loneliness of the lambs' bleating in spring as the sun went down upon those wide wolds. Large wastes of land (now cultivated) overhung the ocean, which was then, as it is now, dotted with many a ship on its course to London.

Perhaps he enjoyed the advantage of an intelligent mother,—an advantage of which, it is written, that King Alfred himself was not ashamed.

His father was a clergyman of the church of England, a recluse and studious man, who hastened his own death by sedentary occupations, at the age of 42. Of seven children thus bereft of their father at an early period, and deprived by his death of a slender subsistence, Eusebius was the third child and second son. At the age of eight years he was brought to London, and adopted by a relative, an apothecary in the city. From London he was dispatched to the grammar-school at Canterbury, where, in the course of six years, he was instructed in the rudiments of learning, and endued with a taste for classic literature. Throughout life he was always a fair scholar, and enjoyed, or seemed to enjoy, the language of Virgil, Horace, and Terence. Ages may revolve before the world shall see better writers than the two first; and who shall affirm that the perusal of such writers would not embellish, if they did not instruct, the mind, at an epoch of its growth?

At the age of 14 (according to the usage of those times) he was taken from school, a sixth-form boy, and placed behind the counter of an apothecary's shop, with an apron tied before him; and in the duty of compounding drugs he was initiated in the art and mystery of medicine. Apprentices then were different to what they are now: Euse-

bius slept under the counter, swept out the shop, cleaned the bottles, put up packages, served the public, and posted the ledger. He entered to (but it is not known that he ever attended more than once or twice) the lectures of Abernethy on anatomy.

Thus qualified (start not, accomplished students of the present day!), he began the practice of physic as a member of the Apothecaries' Company, first under the introduction of his relative, and lastly by himself. His knowledge was equal to those who were his equals in life, while a happy demeanour and warmth of heart were the best guarantees for success.

He married, continued to prosecute his profession, and, without any private fortune, enabled himself and family to live comfortably by his daily exertions. But he was addicted to that strange anomaly in medicine—a partnership. As if there could be partnership in mind, when success itself depends upon individuality of intellect—as if there could be equality between two, when the mental activity of the one must inevitably be superior to, and more valuable than that of the other! A medical partnership would seem to be an unfair race of personal competition. It is stated that he joined, in succession, as many as six partners; from each of whom he separated with disgust and anger, loss of money, and diminished reputation.

Nevertheless, time rolled away; his means were always equal to his wants, and he counted upwards of fifty years before he retired from practice. His person was known familiarly in the streets of London, and his industrious perambulations from morning to night, and sometimes from night to morning, might have taught “the very stones to prate of his whereabouts.”

His skill in medicine, as far as it went, was sound. Time, observation, and experience, had supplied the place of early tuition; and though he had no pretensions to the admirable skill of a Cline or a Babington, yet he waited on the sick or dying with more solicitude than is to be expected from the giants of our profession. Such a man is always useful, and always in demand, and the public always value and retain him whenever he is found.

At the first stroke of mortality among his own children he withdrew from

public view. In retirement he suffered the usual lot of men as age advances; for he himself fell upon the bed of sickness, apparently of death. But from sickness he recovered, and arose to vegetate in a green old age. His happiest hours were certainly those of his closing years, apart from the world, and in the bosom of his family. His mind was serene; and though he did not aspire to the unattainable perfection of a saint, yet the evening of his life was illumined by some partial ray, some dawning splendour of futurity. At the impending age of more than 70, he enjoyed the revival of former health, and, like all other men, approached without being able to shun the *ultima Thule* of existence.

Men of this portraiture were common in London not thirty years ago, but they are now fast departing from the stage. A new order of things has arisen, and a new kind of men has arisen with the new order.

The small light of classic lore, the rudimental spark of by-gone education, is now lost in the blaze of scientific knowledge. A bolder, it is apprehended a more useful, scheme of medical education has been framed and established, by which the obsequious apothecary, transmuted into the mixed surgeon and physician, no longer bleeds and prescribes according to the dictates of a superior, but, acting on his own judgment, asserts the equality of knowledge, and disputes the ground of intellectual ascendancy. The shop and the pestle have been quitted for the scalpel and the dissecting-room; and the practical acquaintance with drugs abandoned for the problematical truths of physiology.

Absolute learning is always of absolute value; but when, as in the mercantile world, the market is overstocked, then the absolute value of a commodity is depreciated in exact ratio to the excess of its supply. Hence it has arisen, that the present heteroclite apothecary is of less dignity than the apothecary of former years; for notwithstanding that the present man is considerably the higher of the two, still in public estimation he stands many grades lower.

Your obedient servant,
MEDICULUS.

May 13, 1837.

ANALYSES AND NOTICES OF BOOKS.

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“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.
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Medical Essays. By J. HUNGERFORD SEALY, M.D.E. A.B.T.C.D. No. I. *Phthisis Pulmonalis, its history and varieties: being an Attempt to distinguish those forms of the Disease which are curable from those which are incurable; with a novel View of Scrofula and Tubercular Depositions.*

EVERY thing relating to consumption has a claim to our interest and attention; and the title page of Dr. Sealy's essay was well calculated to excite our curiosity in no ordinary degree. No doubt recent investigations have done much to dissipate the utter darkness in which the subject of phthisis pulmonalis had been involved; but still all admit that our knowledge is far from complete—that much remains to be effected; and we were naturally anxious to discover how much nearer the goal Dr. Sealy's investigations had carried us, believing that all who add to our knowledge of this devastating scourge are entitled to the highest acknowledgments and deepest gratitude of their fellow men.

Dr. S., in his preface, commences by an analysis of the progress of society, and the effects of a state of nature and civilization upon disease, from the first rudiments of barbarous existence to the condition of the world as it now is, and with rail-road rapidity arrives at the conclusion, that “idiopathic diseases” are only associated with civilized life, and that the sources of all internal diseases are either scrofula in its varieties—the imagination or *mental* nervousness—and hysteria or *physical* nervousness,—intending these to be the subjects of distinct essays, while a fourth is threatened upon the “history of medicines and poisons, with their discrepancies and resemblances.” The reader cannot fail to admire the author's power of condensing his subject, when we tell him that the whole is included in ten small and widely-printed pages, and room is found nevertheless for “*talismanic rods*”—“*unwaked whirlwinds*”—“*equatorial excursions*”—and other phrases equally poetical and ima-

ginative, but perhaps in the minds of some of our readers not strongly savouring of inductive philosophy.

Then follows a dedication of some eight pages to Sir C. Scudamore, in which the author modestly begs the learned Knight's indulgence to opinions "so perfectly novel in the solution of disease," and "which exceed the present limits of anatomical research and advanced theory,"—opinions resulting from "closet meditation, founded on years of experience, observation, and reading," and which he hopes will "fill the vacuity which the labours of Haller, Bichat, Hunter, Tiedemann, and a host of others, have left in respect to so palpable a secretion as pus."

But we must hasten on to the body of the work, to put the reader in possession of Dr. Sealy's important discoveries; and we shall endeavour to do so in the author's own words. After describing in his peculiar manner "the true hereditary scrofulous tubercular phthisis pulmonalis," the author proceeds to a short physiological review of the nature of scrofulous depositions, and informs us, that, "for the consideration of this subject, and my (Dr. S.) view of it, we must now turn to a peculiar secretion, and what I would *willingly believe to exist!*—although anatomy has as yet been unable to prove their existence—a peculiar arrangement of secerning vessels, which has been hitherto altogether left out of the consideration of the question—namely, *pus and puri-secerning vessels.*" After this important announcement, various authorities are cited as to the nature of pus, all of whom fail, in Dr. S.'s opinion, to point out the source of the difficulty. Hewson's opinion of its being modified lymph, though partly sanctioned by Hunter and others, is designated as absurd, and all previous researches are at once set aside to give place to Dr. Sealy's luminous and profound hypothesis. "I think," he says, "if we admit that it (pus) has a secerning system of its own, and *can imagine* (all have not the learned Dr.'s bump of ideality) that it is a secretion always going on, and as *necessary* to the integrity of the animal fabric as any other, and only becoming apparent from some deficiency in the energy of the antagonist powers, the exhalants and absorbents, *we are*

relieved from all the difficulties under which all the former physiologists laboured, and come at once to the root of most diseases"!!! So that by one desperate effort of imagination Dr. S. has effected more than the genius and industry of all former physiologists! But this is not all. To explain the fact of some tissues secreting more pus than others, "*why not suppose,*" he says, that those tissues are supplied in a larger degree with those secerning vessels? And though he candidly admits that of the "original appearance and determinate use of pus we may be said to *know nothing,*" yet, nothing daunted, he again resorts to his imagination, and tells us, "*it may be* in its pure state colourless and unappreciable,—*it may act* on the circulating and absorbent system, *as the bile acts on the digestion!*" And after favouring the reader with a list of names and opinions on the subject of absorption, with a view to prove their absurdity and insufficiency, he at last deigns to patronize (a very natural selection for Dr. S.) two undemonstrable sets of colourless vessels, supposed to exist by Dr. Alard, which carry the nutritive fluid from the arteries, and that of an opposite nature from the veins, modestly adding, "that, extending this speculation to the existence of a *third set* of secerning or conveying vessels from the arterial trunks, of the *purulent formation*, balanced by an *absorbent set* from the veins, *my theory will be complete!*" Tubercles, according to Dr. S., are the result of "disease giving a preponderance of the one over the other, and leaving the exhalation of pus unremoved and *legitimately* (?) applied; and so, by becoming superabundant, acting as a source of disease."

It is therefore only necessary, in order to establish Dr. Sealy's reputation as a great discoverer, for the reader to *imagine*, in the first place, a fluid which has never been seen, and whose uses are unknown; then *four* sets of equally invisible vessels; and upon this admirably contrived foundation to erect a practical theory of disease, concluding, with the author, that the "unremoved or unabsorbed effusion of pus is the source of *all idiopathic inflammation, and that all idiopathic inflammation is scrofulous.*"

Dr. S. then divides scrofula into the internal and external, and considers the

former to be “*an exhausted condition of the disease*, not equal to its full virulence, and found in the third or fourth generation of a strumous family, somewhat altered by intermarriage with non-strumous connexions.”

It must be confessed that arriving at conclusions is not one of the difficulties with which the learned author has to contend.

The curable form of phthisis is next discussed, but the description of the symptoms would apply to any other form of thoracic disease rather than the tubercular. The labours of Louis, Clarke, Latham, and many others, are apparently unknown; and in the recital of some five or six illustrative cases of either form of the disease, the biographer is far more conspicuous than the medical inquirer. The essential details are forgotten, while the effort at *effect* is apparent in all, and in no one instance can the nature of the disease be more than suspected. The stethoscopic details are miserably deficient, and those which are noticed of a very questionable character. Miliary tubercles are supposed to exist, and to be cured, without a single proof of their presence; and Dr. S. sums up his experience by numerical results, in support of which no facts are adduced.

Dr. Sealy's style is extremely careless and defective, often obscure, and not unfrequently ungrammatical; and we cannot compliment him on having added either to his professional or literary reputation by the essay before us. There are here and there traces of ingenuity and research which merit our praise, and sentiments expressed in reference to the present state of the medical profession creditable to the author's feelings; but as a whole we cannot but disapprove very strongly of the work: believing that the future progress of medicine as a science can only be secured by reasoning from facts, and by mere hypotheses springing from a vivid imagination.

The last word which we used forms the subject of Dr. Sealy's forthcoming essay. Of its probable merits we do not presume to speak, but we trust that it will belie its title, and will prove a faithful digest of interesting realities rather than illusory hypotheses.

RETROSPECT

OF THE

PROGRESS OF ANATOMY, PHYSIOLOGY, AND THE MEDICAL SCIENCES.

FROM MÜLLER, ARCHIV. FOR 1836.

ONE of the most useful communications which the industry and talent of the German physiologists annually make to the stock of medical literature, is the retrospect which is published each year with the *Archiv. für Anatomie, Physiologie, und Wissenschaftliche Medicin*, now conducted by Professor Müller, and of which, the last part having not long since come to hand, we proceed to lay before our readers an account of what are there given as the chief results of medical labours during the preceding year.

The first part of his retrospect is occupied by the additions to our knowledge of human anatomy, in the microscopic department of which, he says, more active exertions were never made than in the preceding year. The principal of their results were as follows:—

Minute structure of the teeth.—Some important conclusions on the minute structure of the teeth, in a dissertation by Fränkel, under the direction of the well-known Purkinje. The osseous substance of the teeth, he says, has no similarity in structure to bone, except on the outer surface of the root, where there is a layer of true osseous substance; and this Müller himself has confirmed. The peculiar substance of the teeth (as observed in very thinly cut slices) consists of numerous closely-arranged parallel fibres, running more or less obliquely, or straight from within outwards, seldom branched, but united by an amorphous intersubstance, constituting the greater part of the tooth, the interspaces being five or six times broader than the fibres. These fibres, which both Purkinje and Müller have decided to be tubular, are, according to the latter, filled (at least in part) with earthy matter—salts of lime; it is they which give the opaque white colour to the sections of teeth, the interspaces being more transparent. On being treated with acids, and by examinations of carious teeth, it was further proved that the walls of these tubular fibres themselves are rendered firm and brittle by being permeated by earthy matter. The more transparent interspaces also contain earthy matter, either in scattered particles or chemically combined, as may be demonstrated by

boiling sections in potash ley, when the animal matter being destroyed, they become opaque, white, and extremely brittle, and present numerous minute calcareous corpuscles.

The enamel is composed of simple vertical fibres, somewhat thicker above than below, of a quadrangular prismatic form, flexuous, and connected by transverse lamellæ; these prisms are usually placed obliquely on the surface of the dental substance. Müller, besides confirming this, has found that the enamel of the calf's tooth, while still soft, already consists of these prismatic fibres, connected only by a transparent fluid material. All these observations have been confirmed by Retzius, so that they may now be looked upon as deciding this interesting point of structural anatomy.

Minute structure of bone.—W. and Fr. Arnold have contributed observations on the minute structure of the cartilages; but they differ much from those made by Purkinje, Deutsch, and Miescher; and the further elucidation is deferred to the retrospect of 1836. A more interesting contribution is that by Müller himself, on the mode of union of the earthy salts with the cartilage of bone. In extremely thin lamellæ of bone, he finds scattered in a transparent substance numerous opaque, white, osseous corpuscles, of an oval or irregularly angular form, flattened, and sending off from their sides numerous delicate vessels, which, connecting themselves with the other adjacent corpuscles, divide the intermediate spaces in a net-like manner, having a diameter of 0.0002-0.0003 of a line. That these corpuscles and their canals contain the salts of lime, either in their cavities or walls, is proved by the latter becoming scarcely visible, and the former becoming quite transparent in molities ossium, where the earthy matter is removed—by the interspaces becoming opaque when bones are treated by potash—by the complete transparency of the sections when treated by acids. Whether these earthy constituents are contained in the interior or the walls of the corpuscles and canals, and which of them produce the opacity, cannot yet be evidently determined; but it is certain that these parts are not exclusively the seat of the earthy matter; for not only are there many fish in whose bones, though containing earthy matter, these canals and corpuscles are not discoverable, but the quantity of earthy matter is much greater than they could alone contain; nor could they, when the animal matter is removed, be capable alone of maintaining the form and size which we see the bones possess after combustion; and, indeed, on treating bones

with potash, extremely finely divided earthy matter is found occupying all the interspaces in which it is irregularly scattered. These observations are alone sufficient to point out the improbability of the earthy matter being chemically united with the cartilage. To these may be added the colouring of bones with madder, the result of chemical affinity between it and the phosphate of lime, separate from the cartilage; the ease with which the earths may be removed, without in any way injuring the form or appearance of the cartilage, whether by disease or chemical agents; and, on the other hand, the similar ease with which the cartilage may be separated from the earths.

Structural difference between the two classes of muscles.—Under the head of the muscular system we find that R. Wagner has remarked that the muscular fibres of the heart present an exception to the general characters of the organic muscles, exhibiting the same transverse striæ as those of animal life, as first described by Fontana; with this exception, it is proved, by the extended observations of Wagner and Schwann, that the difference of character between the animal muscular fibres and the organic, which are marked by knotted swellings, universally holds*.

Schwann has also found the animal fibres of the pharynx extended as far as a third of the length of the œsophagus. All the rest of that tube belongs to the organic system, as do also the fibres of the bladder; while those of the membranous part of the urethra have the character of animal muscular fibres.

Anatomy of the compressores urethra.—Professor Müller says that he has, for many years, demonstrated the arrangement of the muscle of the membranous part of the urethra, in the same manner as Mr. Guthrie, whose description he almost entirely confirms, in opposition to the views of Mr. Wilson, after whom a supposed distinct muscle was named, and from whose works a description has been generally adopted. He also mentions, that this arrangement was well known to Santorius, as is shown in the seventeenth plate in his work, though no description is appended.

Muscles of the back.—He gives also a very curious set of analogies between the muscles of the back, founded on the observation that those vertebræ which bear no ribs will all be found (partly in man and partly in animals) to have an extra osseous

* The iris seems to be another exception, consisting of simple plain filaments. In this and in some other respects, as its association in action with the muscles of the orbit, it seems to be a kind of intermedium.

nucleus on the transverse processes. Hence, in the insertions of the muscles, these abortive ribs (as they may be considered) perform the part of perfect ribs; and it is found that those muscles which in the back are inserted on ribs, are, in the neck and loins, inserted on the transverse processes. The analogy is clearly shown in the cases of the sacro-lumbalis and longissimus dorsi, with the ascendens colli and transversalis colli; which form, in fact, thus regarded, but two muscles extending along the whole column, and in the same manner with the others, though we have only space to announce the general law.

Nerves of the penis. — Müller describes the two sets of nerves, organic and animal, distributed in the penis, on which he appears to be preparing a special work. The former are derived from the hypogastric plexus, and form a plexus with several minute ganglia by the side of the prostate gland, under the levator ani, to which there come some delicate twigs from the third and fourth sacral nerves. From this plexus are derived nerves to supply the prostate itself, and some longer branches, which, running on and forming another plexus between the prostate and levator ani, are arranged next in an extensive plexus below the pubic venous network at the anterior part of the prostate, and partly in the substance of the muscular coat of the membranous portion of the urethra, where they are joined by some branches accompanying the divisions of the pubic vessels. From this last mixed plexus are derived several branches which pass into the corpus cavernosum, under the symphysis pubis, where they exhibit minute ganglia, and are met by some small branches of the nervi dorsales; though the greater part of these latter are distributed to the skin and glans, to which they give the high degree of sensation those parts possess, while the former are the nerves which govern the phenomena of erection and the action of the helicine arteries, as explained by the same author in the second edition of his Physiology.

Accidental nervous ganglia. — Hyrtl has made some interesting observations on the inconstant, apparently accidental ganglia, which occasionally are met with on sensitive and mixed nerves, especially on the posterior roots of the spinal nerves (where they are found in addition to the regular ganglia). They seldom interest the whole of the filaments, but are generally observed occupying only one side of the nerve; the fibres may be seen to enter into them, to diverge and meet again before leaving them, being uninterruptedly continued through them. Of their cause,

or use, nothing seems as yet to be known; though they can certainly not be regarded as pathological formations. In addition to the spinal nerves, they have been found on the vagus, glossopharyngeal, accessorius, infra maxillary, and different parts of the infra-orbital.

Origin of the optic nerve. — The result of a very lengthened consideration of the origin of the optic nerve in man and animals, by Stein*, is, that in the former it is derived from the white fibres forming the upper covering of the optic thalamus, from some others coming from where the peduncles of the pineal gland are connected with the posterior commissure; from another fasciculus coming from the anterior, and a fourth from the posterior of the corpora quadrigemina. From the two latter is derived a minute bundle, which is lost in the crus cerebri, without being connected with the nerve. The commissure of the nerves is also connected with the grey lamina, which, covering the inner surface of the thalami, is connected with the tuber cinereum, and ascends between the anterior crura of the fornix and anterior commissure.

Laryngeal and hypoglossal nerves. — C. E. Bach† has published his examinations of the hypoglossal and laryngeal nerves. On the former we find nothing important or new, but he confirms the idea of the descendens hypoglossi belonging rather to the cervical nerves than to the hypoglossal. The results of some dissections of the laryngeal nerves, which appear to have been made with the greatest care, are, that the laryngeal muscles are thus supplied. The crico-thyroideus always receives branches from the superior, rarely from the inferior; the inferior supplies the crico-arytenoideus posticus; the thyro-arytenoideus is supplied by the inferior, and sometimes also by the superior; the crico-arytenoideus lateralis by both; the crico-thyroideus by the superior, and rarely also by the inferior. [We regard these observations as of the highest importance, because, while they show no regular distribution of these nerves, they contradict altogether the theories which Magendie had drawn respecting the voice, by supposing that the superior nerves supplied the muscles which narrowed, and the inferior those which widened the glottis. If this account be true, too, and it agrees with dissections we have ourselves made, Dr. Hugh Ley's theory of the production of laryngismus stridulus, which was based on the same erroneous descriptions, must be wrong. We may add that they are

* De Thalamo Optico et Origine Nervi Op. Hevniæ. 1834.

† Annotationes anatomicæ de nervis hypoglossis et laryngis. Turici, 1834.

further confirmed by the preparations made by Schlmun, and described by Rudolphi.]

Composition of elastic tissue.—It was long esteemed remarkable that the elastic tissue should form an exception to the general character of the lower, least important, and least organized tissues, in not affording gelatine on boiling—by prolonged boiling. Eulenberg has now obtained it from all, even the middle coat of arteries. Schwann describes its physical characters: it consists of fibres of very different thicknesses, branched, and possessing sharp edges. It occurs not only in the situations where it has been usually described, but also in the bronchi and œsophagus, beneath the mucous membrane, in the lig. suspens. penis, in the fibrous bundles of the corpus cavernosum, &c. Even the outer and inner coats of arteries and veins contain a few fibres; in the large veins of oxen a thin middle coat of it is discoverable, but in man it cannot be certainly determined.

Contractility of arteries.—Schwann has decided the important and problematical question of the contractility of the small arteries, by pouring cold water on the vessels of a frog when they had been previously in a warm atmosphere. They immediately contract, but after a time regain their diameter again. Müller remarks, that in this capability to contract under the influence of cold, but of no other exciting causes, as electricity, &c., the contractile tissue of the arteries resembles that of the dartos, and that which is found in many parts of the skin, as about the nipple and follicles, though the physical characters of the latter are so different from elastic tissue. [Is it not probable that the part of the artery which contracts under this excitement is (as we think Weber suggests in his General Anatomy prefixed to Hildebrandt) the outer coat, which in its long silky filaments much resembles the dartos?] Schwann has also discovered that the capillaries have an elastic coat, with circularly running fibres, exactly like the arteries.

Arrangement of the vasa vasorum.—Burdach* has observed a singular fact in relation to the distribution of the arterial and venous vasa vasorum, viz. that while, as was well known, the nutritive arteries of arteries are almost always derived from some one of the branches, and not from the trunk that they supply, the contrary is the case with the veins, which as regularly pour their blood into the vessel on whose coats they are distributed, whether it be trunk or branch. For instance, while the nutritive arteries of the common iliac artery and vein are derived from the ilio-

lumbalis and sacro-lateralis, the corresponding veins of the same large vessels pour their blood into the iliac vein.

Arteries of the cornea and its conjunctival covering.—The arteries of the conjunctiva cornea, and of the cornea itself, have been determined by Romer more clearly than the injections of Mueller, Henle, and Retzius, had pointed them out. The conjunctival vessels form round the edge of the cornea an arterial circle, from all parts of which minute vascular tufts run towards the centre, branching twice or three times. Their extremities bend down and pass into the substance of the cornea. He has found the corresponding circular venous sinuses at the edge of the cornea, and has therefore fully settled the long-disputed question both of the conjunctival covering and organized nature of the cornea. He also describes a series of minute simple mucous glands occupying the under surface of the conjunctiva palpebrarum.

Anatomy of vena azygos.—C. J. Stark, by his examinations of the vena azygos in all classes of animals, in malformations and in the embryo, has determined an interesting series of analogies, explaining much confusion which has previously existed as regards both the arrangement and the uses of this vessel, caused principally by the attention which the great size of the inferior cava in man has excited. He points out, that the vena azygos and semi-azygos ought rather to be looked upon as the analogues of the two common jugulars, for each, even in man, receives in its place the vertebral and spinal veins, and to the intercostals which go into the azygos and semi-azygos, the veins between the transverse processes in the neck and loins passing into the lumbar and the jugular correspond. The vena cava inferior is in fact more properly the azygos vein of the body, for in the embryo of man and other animals the blood of the lower extremities is returned by the azygos, and the cava inferior is remarkably small, and indeed remains so small in some cases, that the azygos has been called cava inferior. Throughout the animal scale, therefore, Stark calls that the analogue of the azygos which receives the intercostals, and which, before passing into the heart, joins the cava superior; while he considers that as cava inferior which receives the blood of the chylo-poietic and urino-genital viscera and does not join the cava superior (whether it take the blood from the lower extremities or not). It will be found that under these considerations the cases of malformation which have been described are more intelligible, and that many difficulties of description will be cleared up.

On the structure of the intestinal glands.—The admirable researches by Böhn on the

* Berichte von der Königl. Anatom. Austalt. zu Königsberg.

intestinal glands are also a result of the labours of 1835. They have already been made known in some of our periodicals, but we shall give a short description of them. The patches at the end of the ileum, which have been long known under the name of Peyerian glands, he shows to consist of small capsules, lying in the sub-mucous tissue, containing in a simple, not cellular cavity, a white, milky, rather thick fluid, with numerous roundish corpuscles of various size, but mostly smaller than blood globules. Round this capsule, which has apparently no excretory duct, there is a circle of minute tubules in the mucous membrane which open on its surface. The typhoid affection seems to consist of an exudation of a peculiar matter around the capsules, after which they pass into a state of suppuration, and form so many minute ulcers, which afterwards become confluent.

The Lieberkuhnian glands are simple follicles,—the white points at the bottom described by their discoverer being probably only morbid secretion.

The Brunnerian glands, found by Böhn only in the duodenum, present a single excretory duct, leading to lobules, which are again subdivided, forming true conglomerate glands. The so-named glandulæ solitariae, occurring throughout the small intestine, and especially at its end, consist of capsules, containing the same corpuscles as the Peyerian glands, from which they differ in their isolated arrangement and the absence of the circle of tubes.

In the large intestine also he describes two kinds of glands: the smaller, found especially in the rectum, constitute simple tubules of various length, which is greatest in the rectum, where they form a particular layer outside the mucous membrane; the larger are round follicles with narrow openings, and are found principally in the cæcum and processus vermiformis.

Meibomian glands.—Zeis has shown that the meibomian glands lie, not between the conjunctiva and tarsus, but in the substance of the tarsal cartilage itself,—the only instance where such an arrangement is found in a fibro-cartilage, to which tissue Miescher has shown that these belong.

Atlanto-axoidal articulation.—Hyrtl says that the synovia which supplies the articulation between the posterior surface of the odontoid process and the anterior surface of the transverse ligament of the atlas, is supplied by minute sacs lying at the sides of the process between its two articulating surfaces, and communicating by a minute hole with the synovial cavity of the joint.

[To be continued in our next.]

MEDICAL GAZETTE.

Saturday, May 27, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

COMPARATIVE MERITS

OF

FRENCH AND ENGLISH SCHOOLS.

THE immense number of medical students who, at various periods of their education, are almost daily flocking over to the Parisian schools, induces us to call the attention of those who are still left behind, or who may come after them, to a deliberate estimate of the benefits which, as it seems to us, they are somewhat blindly seeking; and for this purpose we will institute a comparison, as briefly but clearly as possible, between the advantages to be attained by the study of medicine at the schools of London and Paris, at the different periods of education. We add the latter clause, because, as we shall afterwards show, the general rule which has often been drawn, as to one being better than the other, must be subject to many modifications depending on the degree of knowledge the student has already obtained, as well as on the objects of which he is principally in pursuit. We shall for the present also leave almost entirely out of the consideration the comparative expense which is induced in each case, because, to the large mass of students, a certain expense in their own country is absolutely necessary, to enable them to obtain a right to practise, and the money laid out in Paris is always regarded as a kind of appendage to this unavoidable cost. We shall at present then consider the subject only in reference to the comparative advantages of the two cities, as affording means of obtaining medical knowledge.

And for this purpose let us consider

each of the principal branches of medical study in its turn, commencing with anatomy. The presumed advantages of Paris in this respect are "the plenty and cheapness of subjects." The former is to a certain extent true, though it has been considerably exaggerated; as in our own schools, it is liable to constant variations, and often nearly as great difficulty is found in procuring a sufficient supply in the French metropolis as here. The latter advantage is also undoubtedly real, though, under the operation of the present Anatomy Act, growing each year comparatively less. But are these advantages worth so much, that students should neglect altogether, or even in part, those which our own schools present? We assert, from positive experience, that any one who chooses to exert himself with industry, in any one of our schools connected with hospitals, may obtain sufficient material for dissection to employ him fully, and that the expense will, on the whole, be little greater than in Paris: for there the great facilities which exist have led to a lavish expenditure of bodies, in a manner over which the student has not control as with us. Besides, as one might have expected, the very ease of procuring fresh subjects has led to a rapid careless mode of dissection, which, almost universal amongst the French students, is too generally imitated by our own while there. The examination of the more difficult and deep, but not less important, parts—as the ligaments, minute nerves, brain, and other internal organs—is much neglected, and the attention given only to those easy of access, and, we may add, most frequently alluded to in examinations for degrees. Again, the attendance of demonstrators is less constant, and to a novice in the language and customs of the place, their utility is of course very limited. Then as to the appliances and means: here it cannot be doubted but that our own schools have the ad-

vantage: the larger size of their rooms, and the generally frequent renewal of the subject, is by no means sufficient to compensate for the filthiness which results from the national habits of the students, and the carelessness of the few attendants who wait upon them. Comfort here, as elsewhere, is nationally neglected.

On the whole, we are convinced that students will be very wrong in postponing the attentive and minute study of anatomy till they can pursue it in France: they can without difficulty find fully sufficient means for the purpose here,—they can follow it with more comfort and more ease, and may soon attain to such a knowledge as shall place them far above the large majority of their brethren across the Channel. Having reached this, they may then with great advantage take the benefit which the number of bodies presents for the investigation of points not immediately necessary for practice, but of which they may be anxious to attain a more scientific knowledge,—or for the performance of operations on the dead body, which we regret to say is still, injudiciously, excluded from the present routine of English studies. But if they would do all this, they must still remember that they will meet with but little assistance from French teachers in these higher branches of the study;—they must in England learn how to teach themselves in France.

With respect to the study of the practice of medicine and surgery, it is constantly stated (especially by those who have not seen them) that the size of the French hospitals, the independence of the physicians and surgeons, and their ability to select cases, render the study infinitely more easy there than here. We do not believe that a single student ever went to Paris without feeling great disappointment on this score in the very first week of his studies. It

is true the hospitals are very large, but in a limited number of hours the pupil can see but a limited number of patients; he can be in only one ward at a time, though perhaps three or four classes are all going round at once. Now while fifty may surround a bed, only one can generally examine a patient, and at most not more than twenty can even see him; and after crushing about the beds, and running in confusion from one patient to another for about two hours, the physician goes away,—when (very different from us) the hospital is closed, and there is an end to his study of the practice of medicine for that day. The next and the next pass over in the same manner, till he at length either finds it best to choose some ten or twenty patients whom he may see by himself while the physician or surgeon is going round; or after trying in vain to find some hospital where, with a teacher of eminence, he does not experience the inconveniences we have mentioned, he becomes disgusted, and gives up altogether in despair. How different is this from the ease with which in England a pupil may study the cases for as many hours every day as he likes: with the wards always open, he is not obliged to follow any one teacher, nor to press through a crowd to approach a patient in whose case he is interested; for if this inconvenience be found in one ward, he can go to another, and by the arrangements usually made at our hospitals it is rare that more than two classes are at the same time going round. In short, we feel bound to say that the means of studying clinically and personally the practice of medicine and surgery in our hospitals are without obstacle, while in the French they are limited on every side. The only cases which the students are unable themselves to examine with

us, are those of surgery, where complicated apparatus are applied; and the absolute propriety of this arrangement is a sufficient reason for its being found here as well as in France, where the same difficulty opposes the study of all such cases.

But we shall suppose the limited time during which the wards are open to the students to be passed—the teacher has gone round, and he and all his class now rush pell-mell to the clinical theatre.

Of the benefits of clinical instruction we cannot speak too highly, but with respect to the comparative advantages which the schools of the two countries offer, we must observe that there now is scarcely an hospital in London in which it is not followed with more or less attention and frequency. A consideration of the relative value of the teachers would lead us into personal flattery or dispraise, which we are not anxious to engage in, though our nationality might be gratified in enumerating the many instances which prove that it would be erroneous to suppose the French to be the best. We will observe, however, that the mere enunciation by a teacher of the symptoms and appearance of a patient, is but an insufficient substitute for the personal examination, and that even the remarks made on the cases are deprived of much of their value, if, in consequence of the obstacles we have mentioned, the hearer has been prevented from making himself acquainted with the person to whom they relate. However valuable clinical lectures may be, they must never take the place of actual and personal study of cases by the students themselves; and if this be their effect, as in France we suspect it often is, we should not hesitate to denounce them as actually injurious.

On the whole, we can assure the student that he will be very wrong if he

thinks he can make up for the neglect of the study of the clinical and practical part of his profession here, by the advantages which will be offered to him in Paris. But after having once learned it soundly here, he will find the greatest benefit in having the large number of patients, and generally the union of particular classes of diseases in one hospital, to assist him in the further pursuit of any subject which he may wish to study.

In these subjects are contained the pith of medical education; they are the basement and capital of the column. We may observe as a general rule, with regard to the others, as chemistry, &c. that the more profound manner, but more limited extent, which the lecturers in France adopt, is of little use to those who require merely sufficient of these sciences to prevent their committing errors. To others they do indeed present admirable opportunities of seeing the best experimenters perform the best experiments with the best apparatus, and such as, perhaps, it would be impossible to meet with elsewhere.

Medical jurisprudence, in its most important application, is so far influenced by the difference of the national laws, that its utility, as there taught, is somewhat limited to Englishmen; and we may say the same of *materia medica*, in consequence of the difference of the articles admitted into the codes of the two countries.

In the opportunities for learning all the science and adjuncts of midwifery, they do indeed present advantages which are quite unattainable in London. The freedom with which examinations are permitted—the carelessness with which the women allow exposure—the nonchalance with which labour is publicly exhibited—and the numerous courses of private and public lectures, offer so

many favourable occasions, that we cannot too strongly advise those to whom this branch of our profession will form either the whole, or a considerable portion of their practice, to avail themselves of the Parisian courses; for except in the larger lying-in hospitals, as that of Dublin, such advantages are not by any means to be met with, and even in them they are confined to but very few at a time.

Such, then, is, on the whole, the comparative state of the schools of Paris and London, in relation to the advantages which they present for the study of the several branches of the profession. In concluding this article we may repeat, that the student will act unwisely if he postpone the attentive pursuit of any one branch, in the hope of atoning for his neglect here by the manner in which he can and will follow it there; he will find his opportunities confined in all directions, and meet with obstacles where he least expected them; he will for a time be unintelligible and misunderstanding; and will come back regretting the loss, perhaps for ever, of the advantages he might have possessed at home.

On the other hand, if, after he shall have ceased to be a pupil, he is anxious to carry on any investigations beyond the present bounds of our knowledge, he will find in Paris material sufficient, be his subject almost what it may. But he must still not hope that two or three months will be sufficient for this; for this period will be scarcely more than enough to enable him to comprehend and make himself understood, unless he go over with a much greater knowledge of the language than is generally possessed by those who esteem themselves rather accomplished French scholars.

CONSTITUTION OF THE MEDICAL
DEPARTMENT,

HON. COMPANY'S SERVICE.

THE Indian medical service is divided into three establishments—Bengal, Madras, and Bombay. On the Bengal establishment there are three members of the medical board, ten superintending surgeons, one hundred and seven surgeons, and two hundred and forty-three assistant surgeons. On the Madras establishment there are three members of the medical board, nine superintending surgeons, sixty-one surgeons, and one hundred and sixty assistant surgeons. On the Bombay establishment there are three members of the medical board, four superintending surgeons, thirty-three surgeons, and one hundred and nine assistant surgeons. This affords a total of medical men in the Honourable Company's service of 736 men. The pay of these not being a consolidated allowance, differs from that in the King's service. The currency in which they are paid is what is now called the Company's rupee, the intrinsic value of which is about 1*s.* 11*d.*

An assistant-surgeon, on his arrival in India, is appointed to the General Hospital, where he remains for two or three months, and then he is attached to a regiment, or placed at a small civil station. If attached to the former at a half-batta station, his consolidated allowances will amount to Company's rupees 225-8, or at the above rate of exchange, to 23*l.* 1*s.* After he has been in the service about five years, it is probable he may attain the medical charge of a regiment, which will increase his allowances to rupees 360-8 or 34*l.* 10*s.* 11½*d.* If at a full-batta station, he will draw 421 rupees, 10 annas, or 40*l.* 8*s.* 1¾*d.* Let us now consider his expenses: but before stating these, it will be necessary to observe, that, in coming to India, an assistant-surgeon defrays the expense of his own out-fit and passage to India; charges which, after the most rigid economy, cannot amount to less than 200*l.* On his arrival in the country, a regulation tent, a horse, saddle and bridle, chairs, table, cooking utensils, and his regimental uniform, will also, with economy, never fall short of 150*l.* more. This latter sum of money is generally obtained by a loan from houses of agency; the interest on which, including insurance of life, amounts to 18 per cent. The next circumstance we have to allude to is the number of servants the medical man is unavoidably compelled to keep. A man servant in Europe will clean boots, shoes, plates, knives and forks,

and wait at table, arrange the furniture of the officer's quarters, clean his horse; and all this for a trifling remuneration. In Europe the officer has a mess to go to, and has no other expense in this department but for washing. In India the case is very different. Few regiments have messes, and consequently the young medical man is put upon his own resources. The peculiarity of religious customs divides and subdivides the employment of one or two servants in England into that of eight and sixteen in India. This is the consequence of the rules of caste; the servant who cleans boots and shoes dares not, if he would retain his caste, clean plates and knives; he who waits at table would rather sacrifice his life than sweep a room; and he who arranges the quarters would not, by all the arts of persuasion, touch a plate off which his master had been eating. Indeed, so tenacious are these men of observing the rites of their own castes, that in the northern parts of India awful instances of revenge have been known to follow an infringement of them. Waiting servants are always Mussulmen. One of these had been offered insult by his irritated master; the man left the room, and returned with a sword and cut his master down.

Another instance occurred in Rohilkhund. A servant was ridiculed whilst in the act of prayer. Enraged, he grasped his sword, the gentleman ran for his life; fortunately the master, being the swifter of the two, escaped by leaping a wall. When the infuriated Mussulman found he had no hope of the object of his revenge, plunged his sword into his own body, and died upon the spot. We have related these anecdotes merely to show the customs of the country, and how bigotedly attached these men are to their caste. These rites should never be meddled with, and so strict are the regulations of government on this subject, that dismissal from the service is the consequence of interference with the religious prejudices of the people. Owing to the inability of interfering with caste, the following are the servants which become indispensable in India:—

One sweeper	4
Bearers to carry, a Palanquin bearing included in the pay	30
1 Kidmutgar, or waiting servant ..	7
1 Washerman	8
1 Water-carrier	5
1 Cook	8
1 Scullion	4
1 Syce, or ostler	5
1 Grass-cutter	4
House-rent	50
Tentage and travelling expenses,	75

Subscription to the Military and Orphan Funds	6
Clothing, including bedding, shoes, &c.	20
Food, including wines (on the most economical terms)	75
Contingencies, as postage, stationery, &c.	20
Total....	321

Thus, then, his expenses amount to rupees 321, or 30*l.* 15*s.* 3*d.*, which are greater than his receipts. It may perhaps be deemed an exaggeration when we state the foregoing; but let it be tried by results, and it will be found that there is scarcely known, among young military assistant-surgeons, one in fifty free from a load of debt.

The fact is, a medical man, especially when he first enters the service, is differently situated from any other officer in the Honourable Company's service. If he is placed under His Excellency the Commander-in-Chief, he is so often removed from station to station, that his expenses must inevitably exceed those we have enumerated.

The Assistant-Surgeon who is appointed to a civil station, and the more fortunate individual who joins and remains settled with a cavalry regiment, are exceptions to the heavy expenses* to which we have alluded. But civil stations are now so reduced as regards allowances, that these are scarcely more than sufficient to yield even a bare subsistence.

That there are appointments in the gift of the government which yield a liberal allowance for the services of young medical men, we readily admit; but these are so few, that out of the number of candidates they are in relative proportion as prizes are to blanks in a lottery. We wish it were in our power to draw a more pleasing picture of the prospects of the young surgeon. But alas! we should swerve from the line of duty we are contending for, were we to heighten the colouring and veil the truth.

We will now proceed to show his pecuniary condition after a service of five years, when he may be supposed to have obtained the medical charge of a regiment.

We are now to consider his circumstances. We find him involved in debt, the exact amount of which it is almost impossible to define,—it depends so much upon the circumstances under which he enters the service. A great many have already incurred a very heavy expense on their professional education. To acquire the medical profession in London, the

pupil undergoes an apprenticeship, and before he gets his diploma he expends at least 500*l.*; this, of course, includes boarding, lodging, &c. There are few respectable families in England who can expend this sum after the previous outlay in academical education, and also afford to disburse for an outfit and passage money to India 200*l.* This latter sum is therefore in nine cases out of ten borrowed, on the florid expectation that an appointment in the Honourable Company's medical service is a certain fortune, and that this debt will be immediately liquidated. Thus, in the first place, we are to charge the young surgeon with a debt of rupees 2,000. We have already shown that his camp equipage, uniform, &c., has cost him rupees 1,500 more, which brings the debt to rupees 3,500, of this sum, rupees 1,500 is at an interest, we will say the lowest (excluding the insurance on his life), of 12 per cent. for five years. His debt, then, without interest, on the remaining 2,000 amounts to rupees 4,400. But we have shown that his receipts are not equal to his expenditure by 70 rupees a month. Seventy rupees a month for five years amounts to rupees 4,200, which, added to the previously mentioned debt, is rupees 8,600, or 860*l.*: so that an Assistant-Surgeon, after five years service in the Honourable Company's employ, when he obtains the charge of a regiment, is in debt rupees 8,600, or 860*l.*; the interest of which at 12 per cent.* per mensem is rupees 86, or 8*l.* 12*s.*

Now it must be allowed by every candid reader that additional expenses are incurred by every medical man in charge of a regiment; and hence, allowing him to be an honest and upright man, determined to pay off his debts the moment he has the means, we proceed once more to consider what these means are, or in other words, his receipts, and the amount he will be able to remit. These receipts at a full batta station, as we have shown before, amount to rupees 421, 10 annas, or 42*l.* 3*s.* 3*d.* The interest on his debt monthly is rupees 86, or 8*l.* 12*s.* His expenses, we will consider at the minimum, rupees 321, or 32*l.* 2*s.*

Thus, then, he is only able to liquidate the interest of his debt, that is to say, supposing that he continues to retain charge of a regiment, which is not probable, neither is it generally the case; so that we have obviously placed the situation of the Military Assistant-Surgeon in the most favourable light. But are there exceptions in regard to particular individuals? Certainly there are. There are men who

* Tentage and travelling expenses.

* This does not include insurance of life as the agent's security.

secure settled situations, — others who scarcely leave the precincts of the presidency. Some who escape the purchase of tents and loss by cattle, whose tour of duty is generally along the course of the river, or by dâk. Such are spared the expense we have stated as the average. There are others of extreme economical habits, who deprive themselves of the common comforts of life, and suffer privations with the hope of once more returning to their beloved native shore. Most of these, however, die in a country where a certain degree of comfort is essential to the preservation of health; others survive and imbibe a habit of saving, which they never lose. Such live and die unknown: misery and wretchedness accompany them to the grave.

But our history has nothing to do with these classes of individuals. Our description of the constitution of the medical department of the Hon. Company's service considers only a liberal minded body of professional men entitled, by their education, by their rank, and by all that is expected of such in Europe, to all those considerations which are conceded and experienced by them. Such men have a right to expect similar privileges, similar expectations, and similar rewards; and we maintain, without the fear of contradiction, that if such terms are not conceded, professional men of respectability will not enter the Hon. Company's service; they will not leave home and connexions—they will not endure hardship, labour, and ill health—for what does not afford even a common subsistence. We have been told that by the argument we have taken up, we shall deter medical men of respectability from entering the service. What, by removing the veil and exposing the real state of things do we attain such an end? by such an argument as this the Court of Directors are accused of deluding men of respectability into India. We will not admit this accusation as just. We maintain that we are the real friends to the service, by putting the Hon. Court in possession of facts in time, that they may altogether remodel and improve the condition of their medical servants, and prevent such a serious consequence as we are supposed to be facilitating. The Court must at least know that we have no interested motives, for our period of servitude is nearly at end, and improving the junior branch of the service will not in the least benefit us; but we hesitate not to say that it must be done, and that speedily, or the service will unquestionably deteriorate.

We have again been told, on the other hand, that hundreds of medical men of

the first-rate qualifications might be found at the bidding of the Hon. Court, were they required. Under the present state of things, we are ready to acknowledge the truth of the assertion. The medical men of the King's army and navy, and professional students, are in multitudes without employ at this moment. But because they are so now, is the very argument to prove that such multitudes will not be found hereafter. The half-pay surgeon of the navy and army will soon be on the superannuated list, and youths will not flock to the medical class when they find there has been a sinking of capital, and nothing but poverty and laborious servitude in return. Such an argument as this latter, therefore, can have no weight whatever, although we readily admit it may with shallow politicians. If, however, hostilities were to break out with any other nation, on the probability of which it is not in our province perhaps to comment, we question whether the supply would meet the demand; and should the suspected northern power join a federate army to invade our Indian territories, how would our numerical medical list appear, already unequal to meet the present requisitions on the government.

[To be continued.]

CLINICAL OBSERVATIONS ON OPENING ABSCESSSES,

Delivered at La Pitié,

By M. LISFRANC.

[From the Gazette des Hôpitaux.]

[Continued from page 28.]

WHEN, after the opening of an abscess, the pus remains in it, in spite of its being placed in the best position for its escape, and in spite of the employment of injections and expulsive bandages, a counter-opening must be made. We are generally directed to make the incision at the point where the matter secreted by the walls of the cyst is deposited; but this practice, if exclusively followed, is attended with some inconveniences (for instance, when we have to dread the injuring of a nerve or artery), which may be avoided by taking the following precautions.

I curve backwards the grooved sound, and introduce it at the lowest point of the abscess. I rest its extremity against the corresponding wall, at the same time that I make the instrument execute such a move-

ment as to make its point project under the integuments. The bistoury is held embraced by all the fingers of the right hand, the edge being turned towards the operator. The index finger alone remains extended: with that finger I examine the parts at and around the point of the sound. I use this finger carefully, just as if I were feeling for the brachial artery before opening the median basilic vein; and in this way, by slow and moderate pressure, if there be an artery, I increase the number of pulsations; and again, when the pressure is removed, the artery gives a peculiar sensation, which is easily recognized. If there be a large nerve, I am able to feel it play by moving my finger backwards and forwards in the soft parts. After making this examination, I cut transversely down upon the sound, with the bistoury held in the fifth position; I then return it to the first position, and cut, away from me, the tissues situated above the sound, taking care not to make an irregular or too large incision.

But if, after the pus has been evacuated, the abscess does not cicatrize, and it is merely an accidental mucous formation, a new method must be had recourse to. It is an admitted fact in pathology, that every secretion, when too abundant, may acquire irritating properties, and pus, when spread over the skin, often excites inflammation in it. Reflecting on these facts, I was led to believe that in the case of large abscesses (whether acute or chronic) the passage of the pus to the outlet may excite inflammation in the walls of the cyst. In such cases, where cicatrization does not take place, I am in the habit of making incisions with great success. I should say that, as a general rule, when an abscess does not heal for some time after it has been opened, many incisions should be made. In short, the irritation excited by the whole of the pus escaping at one outlet may be avoided by making several openings for the passage of the fluid. This practice, which is not mentioned in books, will be found to be very useful.

Chronic abscesses.—There are two kinds of chronic abscess. The first kind often originates in a chronic swelling of the soft parts. The second is often formed in the cellular tissue,—for instance, under the large muscles, and is produced by the influence of a slow and chronic inflammation, the first symptom of which is usually fluctuation, not preceded by any appreciable swelling. This distinction is of great importance; for if we describe as chronic abscess, only that which is preceded by swelling, we must consider a chronic abscess which has not been pre-

ceded by swelling, as an abscess by congestion.

As to the first kind of abscess, its development is attended with a chronic sort of sub-inflammation. It often has its origin in a hypertrophied lymphatic ganglion, which may be a long time in communicating its diseased condition to the surrounding tissue. If such an abscess is formed in the neck, particularly of young people, every means must be employed to prevent suppuration. These swellings are sometimes removed by the use of emollient cataplasms and of leeches,—which last I find to be quite efficient when placed on the mastoid processes of the temporal bone, where they occasion no disfigurement. But when pus has begun to be formed only in very small quantity, are leeches to be employed? In some cases they are. I used leeching on the mastoid process in the case of a young lady, where fluctuation was evident, and after three leechings the tumor was entirely dispersed. If this method is seldom followed by equal success, yet it is always useful in preventing inflammation of the hardened tissues not yet involved in the suppuration. I think, then, that where there is well-marked inflammation, and the patient is not too weak, the application of leeches should be tried.

When the purulent deposit is once formed, and is extending itself, at what period is a chronic abscess to be opened? When the skin is not likely to be separated from the cellular tissue to any great extent, it is not to be opened; but when there is fluctuation, it must have its progress carefully watched, otherwise dangerous consequences may ensue, for the separation of the skin from the subjacent tissue may proceed very rapidly. The signs of this separation of the skin are the following:—Skin thus separated has a less vitality, except in the parts covered with hair. This is recognized by some difficulty in moving it along with the subjacent parts, and by its diminished temperature. It is also sometimes slightly discoloured, and begins to assume a violet colour. A want of elasticity is also sensible to the touch. When these symptoms have appeared, we must no longer temporize. If the abscess is situated on an uncovered place, it must be opened by a simple puncture; if it is not, the incision is to be of sufficient extent for the free escape of the pus (the directions given for the treatment of acute abscess being always followed.) When, in an adult, large swellings of the lymphatic glands of the neck are formed, experience shews that there are almost always tubercles in the lungs. As the symptoms of this are often slight, and

there is often even little cough, the chest should be carefully examined. This precaution is most important, both for the prognosis and for the treatment. We often see developed on pale-coloured swellings a series of small and isolated abscesses; the skin inflames and ulcerates, and an issue is given to the purulent matter. After opening, these abscesses may either heal, or remain fistulous. Other abscesses spring up in succession; and this goes on for a long time. Commonly the swelling increases; sometimes it diminishes. In such cases, if the internal organs are sound, and the swelling is not very large, the pointing of the abscess should be hastened by the use of poultices. Sometimes you may be called to a young woman who has been scrofulous, and has under her jaw an enlarged gland, as hard as flint. This must be removed by an excision, longitudinal, or in the figure of T, according to the size of the gland. Great care should be taken to make the cicatrix deform the neck as little as possible.

In opening chronic abscesses of the first kind, some recommend the employment of caustic potass. This practice is attended by many disadvantages, and perhaps its only advantage is, that it irritates the swollen tissues, and may hasten their resolution; and even in that respect this escharotic has no specific virtue. Thus a few leeches, ointment of hydriodate of potass, and compression, have the same effect. In all cases, then, even where there is considerable separation of the skin, I prefer using the bistoury.

Much oftener than it is supposed, abscess by congestion is supplied with pus coming from the soft parts. Thus abscesses of the upper part of the neck sometimes burrow, and present a fluctuating tumor in the sub-clavicular triangle; and Desault found, in the epigastric region, a large abscess formed by pus which had descended from the neck along the anterior mediastinum. The pus of congestive abscess commonly arises from rachitis and caries; but pathology shews us a certain number of cases, in which the pus was formed by the disease of the soft white parts surrounding the ricketty spine, where there was no alteration of the bodies of the vertebræ, or of the intervertebral cartilages. Delpech has shewn how tubercles of the vertebræ may soften, give out pus, and form congestive abscesses, without any trace of caries being found in the vertebræ; and the possibility of this has been proved beyond doubt.

It has been said, that, when an abscess is situated on the anterior inferior part of the abdomen, the pus does not come from the spine. Yet I have met with two cases

where the humour was evidently derived from caries of the vertebræ.

In the last stage of the abscess, when it ulcerates and opens spontaneously, it has been too generally admitted, that this opening is followed by dangerous consequences. But experience shews that the opening may be small, and give issue to a small quantity of pus; that this opening may close, re-open, and heal again, and do this repeatedly. In this manner the pus is evacuated gradually, and in small quantities, and the abscess may finally be cured. Of this I have seen very decided instances, and especially a case in this hospital, of a child, aged 11, who had two congestive abscesses, on either side of the vertebral column. I did not open them, because the skin did not appear healthy; the child caught the measles; the abscesses diminished in size, and again increased a little, and finally they disappeared, and a complete cure was effected. The young practitioner ought not, therefore, to lose hope too soon in similar cases.

Purulent matter may harden in an abscess, and yet be partially or entirely re-absorbed. This, however, is but rare, and the opening must not be always left to the care of nature. I think that abscesses of this kind should not be opened when any of the following circumstances are present:—1st, disease of the viscera; 2d, weakness of the patient; 3d, there being several large abscesses. Large blisters applied on voluminous chronic abscesses may make them suppurate, and may dispel them; they have also sometimes been cured by the use of moxas. Abernethy used to treat them like hydrocele, by puncture, and the injection of aromatic fluids. I have never tried this; but I think it may be advantageous where the walls of the cyst are very thick, or the cyst itself is very extensive.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

May 23, 1837.

DR. BRIGHT, THE PRESIDENT, IN THE CHAIR.

On Nervous Affections peculiar to young Women, causing Contraction of the Muscles of the Extremities, accompanied by increase, diminution, or absence of Sensation or Motion. By JOHN WILSON, M.D. Physician to the Middlesex Hospital.

THE author briefly details the circumstances of ten cases of nervous affections

occurring in his practice at the hospital, the subjects of which were all young women, and, with one exception, single. The symptoms in these cases, varied exceedingly: in some, simulating disease of the hip and spine, occasionally attended with common hysterical features, occasionally with paralysis of one or other of the limbs, hemiplegia, rigid muscular contractions, and other evidence of extreme nervous affection. Generally, but not invariably, the uterine functions were disordered, and the bowels were usually constipated.

The treatment consisted in the administration of purgatives by the stomach, as well as in enemata; in the use of acupuncture, the cold shower and douche baths, large doses of carbonate of iron, and other local and general means; which succeeded usually, in a very short time, in giving entire relief to these distressing affections. The remedy, however, which was productive of the most decided advantage, was forcible extension of the contracted limbs, by obliging the patient to stand unassisted by the sound limbs, and causing them to walk with assistance about the ward. These means the author found it often very difficult to enforce, owing to the objections of the patients and the sympathy excited in the nurses and other beholders, by the apparent severity of the treatment. The author satisfies himself with relating the cases briefly to the Society, leaving it to others to draw their own conclusions from them.

A discussion of greater interest than usual followed the reading of Dr. Wilson's paper.

The PRESIDENT observed, that the cases detailed by the author were of importance, particularly as connected with the new methods suggested for the treatment of severe hysteria. It would be curious to ascertain how far the acupuncture had contributed to the beneficial results. He had himself seen a young woman who was suddenly affected with a loss of sense and motion in the hand and wrist, and afterwards with paralysis of the right leg. She gradually recovered under the use of blisters to the spine, without the employment of the needles.

Dr. JAMES JOHNSON said that there were two points of especial importance connected with such affections: first, how to distinguish them from actual disease; and next, how to treat them. With regard to the former, the two chief marks in the diagnosis consisted in the occasional presence of unequivocal symptoms of hysteria, and in the general health and vital functions not being affected in such a manner

as the other phenomena would lead us to expect. With respect to treatment, he thought time generally effected a cure, which was attributed to the remedy last employed. He believed solitary confinement would be a more effectual remedy than any other.

Dr. WEATHERHEAD did not agree with the last speaker; he thought many remedies of great use in hysteria, such as assafoetida, carminatives, bitters, &c. He did not approve of the carbonate of iron, but thought the muriated tincture, or the acetate, would be better.

Mr. PHILLIPS related the case of a young woman, in good health, who, one day in ironing, struck herself a slight blow at the lower extremity of the radius. The parts swelled and became very painful. At the end of a fortnight, when Mr. P. first saw her, there was very little appearance of injury, but great tenderness. Leeches were applied: two days after which there was some spasm of the muscles, and contraction of the fingers, the pain, which had become more severe, extending towards the head. Cupping and blistering were had recourse to without advantage. At the end of three weeks the sight of the left eye became impaired, and was afterwards completely lost. She had violent convulsive action of the muscles, occurring in paroxysms, many times a day, and always commencing in the original seat of injury. During all this time the various functions of the body continued regular. Various consultations were held, and a great variety of remedies tried. At length it was determined to leave the case to nature; within a month she was better, and in about three months quite well.

Mr. ARNOTT made some observations on hysterical affections of the joints. He thought the general aspect of the patient was very important in leading to a correct diagnosis: he concurred in the general efficacy of Dr. Wilson's recommendations, and was of opinion that the acupuncture had been of service in the case where the ankle-joint was affected. He also spoke very favourably of the cold dash, which he had seen relieve a case of tetanic spasm, where morphia had been freely given without avail.

This was the last meeting of the season, but owing to the number of papers, an extraordinary meeting of the Society will be held on Tuesday, June 13th.

DINOTHERIUM GIGANTEUM.

M. DE BLAINVILLE lately read before the Académie des Sciences an elaborate paper on the skull of this extinct animal lately

brought to Paris. We cannot, however, afford space for an analysis of it. He was much inclined to doubt whether this animal possessed a trunk, as many have supposed. He was more disposed to consider it, with Cuvier, (who had only seen its molar teeth), as a gigantic tapir, than as a large species of the edentata, with M. Kaup. M. de Blainville was inclined to refer it to the family of aquatic Gravigrades of his own system.—*La Presse Médicale*.

GENERAL REGISTRATION OF DISEASES.

WE, the undersigned President of the Royal College of Physicians, President of the Royal College of Surgeons, and Master of the Worshipful Society of Apothecaries, having authority from the several bodies whom we represent, do resolve to fulfil the intentions of the Legislature in procuring a better registration of the causes of death, being convinced that such an improved registration cannot fail to lead to a more accurate statistical account of the prevalence of particular diseases from time to time.

We pledge ourselves, therefore, to give in every instance which may fall under our care, an authentic name of the fatal disease.

And we entreat all authorized practitioners throughout the country to follow our example, and adopt the same practice, and so assist in establishing a better registration in future throughout England; for which purpose we invite them to attend to the subjoined explanatory statement, in which they will set forth the provisions of the recent statute, and the means whereby the important object we have recommended may most effectually be attained.

HENRY HALFORD,

President of the Royal College of Physicians.

ASTLEY COOPER,

President of the Royal College of Surgeons.

J. HINGESTON,

Master of the Society of Apothecaries.

EXPLANATORY STATEMENT.

The recent Act for registering births, deaths, and marriages in England, presents an opportunity for obtaining that great desideratum in medical statistics—a more exact statement of the causes of death, in the case of every registered death throughout the whole of England and Wales, after the month of June next ensuing.

The register-books in which all deaths are to be registered after the last day of June, 1837, contain columns wherein may be inserted the cause of death, in juxta-

position with those other important illustrative circumstances, the sex, the age, and the profession, or calling, of the deceased person. Each register-book will also be assigned to a particular district of small extent, and will thus shew in what part of the kingdom each death has occurred. If, therefore, the cause of death be correctly inserted, there will exist thenceforward public documents, from whence may be derived a more accurate knowledge, not only of the comparative prevalence of various mortal diseases, as regards the whole of England and Wales, but also of the localities in which they respectively prevail, and the sex, age, and condition of life, which each principally affects.

For the attainment of this object it is necessary to insure, as far as it is possible, the “cause of death.” It is obvious that on this subject the requisite information can seldom be given to the registrar, except by the medical attendant on the deceased person, and that even if the registrar be a medical practitioner (which in many instances will be the case), yet will he often be unable to ascertain the truth in this respect, if he is to depend solely on the reports of persons ignorant of medicine, and of the names and nature of diseases; and it cannot be expected that from his own knowledge he will be able so far to correct their errors as to insure a statement worthy of credit. The requisite information must therefore be supplied, either directly or indirectly, by the medical attendant of the deceased person; that is to say, if such medical attendant is not applied to by the registrar, he must afford the requisite information to those other persons to whom the registrar must apply.

The persons who, according to the act for registering births, deaths, and marriages in England, must give information to the registrar on being requested to do so, are “some person present at the death, or in attendance during the last illness,” or “in case of the death, illness, or inability, or default of all such persons, the occupier of the house or tenement, or (if the occupier be the person who shall have died) some inmate of the house or tenement in which such death shall have happened.” It is also provided, that “for the purposes of this act, the master or keeper of every gaol, prison, or house of correction, or workhouse, hospital, or lunatic asylum, or public or charitable institution, shall be deemed the occupier thereof.”

It is therefore earnestly recommended that every practising member of any branch of the medical profession who may have been present at the death, or in attendance during the last illness, of any

person, shall immediately after such death place in the hands of such other persons as were in attendance, of the occupier of the house in which the death occurred, and of some inmate who may probably be required to give information, written statements of the cause of death, which such persons may show to the registrar, and give as their information on that subject.

It is desirable that such statement should be very short, the column in the register-book in which it is to be inserted being not more than sufficient for the insertion of about ten words of moderate length. It should, therefore, contain only the name of the disease which was considered to be the cause of death, and not a detailed account either of antecedent symptoms, or of the appearances which may have presented themselves after death. It is also desirable that such statement should exhibit the popular or common name of the disease, in preference to such as is known only to medical men, whenever the popular name will denote the cause of death with sufficient precision.

MEDICAL ATTENDANCE ON THE POOR.

(*British Medical Association.*)

To the Editor of the Medical Gazette.

SIR,

THE Council of the British Medical Association consider that the publication of the inclosed copies of a correspondence between Dr. Webster, our President, and Mr. Chadwick, may be useful and interesting to the profession at the present moment; they have therefore instructed me to send them to you, with a request that you will please to insert them in the MEDICAL GAZETTE.—I am, sir,

Your obedient servant,

WM. EALES, *Hon. Sec.*

Southwark, May 24, 1837.

(A COPY.)

Dulwich, April 21, 1837.

Sir,—As the President of a large Medical Association, and referring to the conversation I had the honour of holding with you on Saturday last, I desire respectfully to submit the following queries, through you, to the consideration of the Board of Commissioners.

1st. If medical gentlemen be proposed or appointed as parochial attendants by a Board of Guardians, and their appointments confirmed by the Poor Law Commissioners, is it considered that such gentlemen hold their situations of the Guardians or the Commissioners?

2d. Can parish surgeons so appointed

be suspended or removed without the approval of the Commissioners?

3d. Are such appointments considered to be during good behaviour? are they annual appointments, as under the old law? or can they be determined at the mere pleasure of the Guardians, without any particular reason, such as inattention, misconduct, &c.?

4th. Would the Poor Law Commissioners sanction any Board of Guardians in passing certain resolutions (to be made known to five only out of thirty medical gentlemen in the parish or union) making it a *sine qua non* that the candidates should not belong to any Medical Club that might be formed in such parish?

5th. Has any Board of Guardians the power to fix the qualifications of parish surgeons, in so far that the candidates must be Members of the College of Surgeons and also Licentiates of the Apothecaries' Company? Is not this exceeding the limits of the Act of Parliament?

6th. Are members of the Scotch and Irish Colleges equally eligible with members of the London Colleges to the office of medical attendant on the poor?

Answers to the above queries would be very gratifying to the Committee of the British Medical Association, now sitting to consider the effects of the present plan for administering medical relief to the sick poor.

I beg to forward the pamphlets * which I mentioned to you as in my humble opinion worthy the consideration of yourself and the Commissioners.—I am, sir,

Your most obedient servant,
(Signed) GEO. WEBSTER, M.D.

(A COPY.)

Poor Law Commission Office,
Somerset House, May 18, 1837.

Sir,—Your letter of the 21st ultimo has been brought under the consideration of the Poor Law Commissioners for England and Wales, who, in reply to your several inquiries, desire to state—

1st. That the terms of a medical officer's appointment are prescribed by his contract. He is subject to the Guardians' immediate orders, under the rules of the Commissioners, and is only liable to be dismissed by the Commissioners under the 48th section of the Poor Law Amendment Act.

2d. A medical officer can be suspended or removed only for gross misconduct, or such neglect of his contract as would disentitle him to the benefit of its provisions.

3d. The appointments of medical officers are annual.

* The Report of the Provincial Medical Association, and Messrs. Rumsey's and Ceely's Observations on the Present Condition of Medical Relief for Sick Paupers.

4th. The Commissioners could not sanction the passing of any resolution by the Guardians to the effect described in your 4th inquiry. The only qualifications for medical officers which the Commissioners can allow, are—

1. The being authorized by law to practise.
2. That the person has not rendered himself objectionable by forfeiting character for skill or propriety of conduct.

5th. It is competent to the Guardians to appoint any qualified person as medical officer; but it would not be illegal if they, with their present discretion, should insist upon a concentration of legal qualifications, such as are instanced in the inquiry.

6th. The office of medical attendant is not simply that of an apothecary; the Commissioners, therefore, do not consider that members of the Scotch and Irish Colleges are excluded.

Signed, by order of the Board,
E. CHADWICK, *Secretary*.

WOUNDS OF THE HEART.

In some instances, although the tissue of the heart has not suffered any solution of continuity, yet the violent commotion which it has sustained has caused the suspension of its contractions; and a state of syncope so prolonged as occasionally to prove fatal, but not necessarily so.

A case of this description occurred while I was at Paris, and as I knew the parties concerned, and saw the patient shortly after his wound, I can vouch for its accuracy. Two French students quarrelled at supper, they wished to settle their dispute on the spot, however, as they were both very tipsy and infuriated, we prevented them; the next morning they met, and as they were determined that one should die, their friends prevailed on them only to load one of the pistols, and then leaving both on the table, to draw lots as to who should take the first chance of the pistols, of course being ignorant which was the loaded one; it was loaded with four pellets. They then mutually felt for the point of the chest, against which at that moment each stroke of the heart told with increased violence, and pressing firmly against this part they fired: one of them fell to the ground in a state of insensibility, but on examining him they found merely a slight flesh-wound at the part to which the pistol had been applied, and with a little care he soon came to himself. I saw him about three hours after this had

occurred. He was then in a state of great anxiety which he could not account for, as he expressed more an unpleasant sensation of weight about his heart than actual pain; there was great tendency to fainting, the pulse intermitted, with severe palpitation of the heart: under proper treatment all these symptoms subsided, and he recovered perfectly in a short time. I consider myself peculiarly fortunate in having witnessed this case, for in affairs of this kind it is generally the right side which is wounded, owing to the position we naturally assume; and also, it exemplifies in a striking manner the power of compressed air in resisting the expansive force of gases.—*Mr. Lees in Dublin Jour.*

STATISTICS OF HYDROCELE.

AN account of M. Velpeau's views regarding the treatment of hydrocele has been already given in this volume. The general results of his experience on this subject are displayed in the following tables:—

In 60 patients labouring under chronic hydrocele, there were—

Between the ages of 15 and 20 years, 3	
..... 20 .. 30 13	
..... 30 .. 40 11	
..... 40 .. 50 16	
..... 50 .. 60 10	
..... 60 .. 70 6	
..... 70 .. 80 1	

In 53 cases of chronic hydrocele there were—

43 cases of hydrocele of one side only.
10 cases of hydrocele of both sides.

Of the above 43 cases, the hydrocele was on the left side in 30; on the right in 9; the side was unknown in 4.

There were found—of many-celled hydrocele, 2 cases; of encysted hydrocele of the cord, 2 (on the right side); of hydrocele in a herniary sac, 2 (1 in a man, and 1 in a woman); of acute hydrocele, 6; chronic do. 3: (these cases of acute and chronic hydrocele were not operated on.)

The operations practised were—

By incision	1
By threads or small setons	2
By compression	1
By vinous injection	27
By iodine injection	31

With the vinous injection, gangrene supervened in... 5 cases.
Suppuration in 2
No cure was obtained in 1

The medium period of treatment, including accidents, was about 36 days.

With the iodine injection there was no

accident. In one case it had to be repeated, and in another the cure was incomplete. The treatment occupied about 14 days.—*La Presse Médicale*.

TREATMENT
OF
CHRONIC CATARRH OF THE
BLADDER,

BY INJECTIONS.

By D. M. DEVERGIE, SEN.

DR. DEVERGIE has recorded eight cases of chronic catarrh, some of long standing, which were cured by injecting balsam of copaiba into the bladder. Some of these cases had succeeded to an acute cystitis; in others the disease had gradually manifested itself, and maintained throughout its chronic character. If stricture of the urethra exist, this requires to be remedied before employing injections. A moderate quantity of an emollient fluid must first be injected, to ascertain the capacity of the bladder, but not in sufficient quantity to irritate it. General means must be resorted to, to calm the inflammation and local pain, the general erethism, &c. Narcotics must next be added to the emollient injections; and these may be repeated three or four times a day. When the state of irritation of the bladder and neighbouring parts is allayed, the copaiba should be injected. A dose of uniform strength is not suited to every case. A drachm of balsam of copaiba to an ounce of barley-water is strong enough to commence with; the quantity of balsam may be increased according to its effects. The combination of narcotics with copaiba renders the latter less exciting. The balsamic injections may be allowed to remain in the bladder for a period of from ten to twenty minutes. The quantity of copaiba is to be gradually augmented; and it should not be injected more frequently than once daily, nor intermitted more than two days. The injection is to be continued until the mucopurulent secretion has quite ceased. It is necessary to guard against the occurrence of inflammation of the mucous membrane of the alimentary canal, and under such a circumstance to suspend the use of the balsamic injections.—*Gazette Médicale de Paris*; and *Brit. and For. Med. Rev.*

TREATMENT OF ARTIFICIAL
ANUS.

By M. BLANDIN.

AN artificial anus, in this case, was the consequence of a strangulated inguinal

hernia, in which six inches of intestine had become gangrenous. The two extremities of the intestine were parallel to one another; the faecal matters escaping from the superior extremity, which was very tumid externally. The finger could be readily introduced into it. The inferior extremity was more contracted, and its diameter daily diminished. Having tried various means to reduce the tumor of the extremity of the intestine, M. Blandin comprehended it in a ligature, and it separated as a slough on the fourth day afterwards. He then constructed an enterotome formed of two branches, each of which terminated by an oval blade, from eighteen to twenty lines in length, and from six to eight lines in breadth; the internal surface being so undulated that each elevation corresponded to a depression on the opposite blade. The two blades were then introduced, one into the upper, the other into the lower extremity of the intestine; several incisions having been first made upon the circumference of the latter. The blades were inserted to a depth of four or five inches, and compressed by means of a screw. Abstinence and rest were enjoined. No evil consequences ensued. The enterotome separated on the fifth day; its two blades being covered by the two extremities of the intestine, the gangrene of which it had caused. On the same evening the patient passed solid faeces per anum, for the first time during an entire month. Gas and a yellowish green fluid alone escaped from the external fistula; and notwithstanding the fact that the patient over-indulged in food, the cure was complete in two months after the employment of the instrument.—*Archives Générales de Médecine*, tome xii.; and *Brit. and For. Med. Rev.*

LIST OF
PRIZEMEN AT THE MEDICAL
SCHOOLS OF LONDON,

SESSION 1836 7.

GUY'S HOSPITAL.

Surgery.—Mr. KEY's Prize.

Mr. C. Chapman. Certificate of Distinction, Mr. W. Chivers.

Anatomy.—Mr. B. COOPER and LOCK's Prizes.

Senior Class.—Gold Medal, Mr. W. C. Brereton. Silver Medal, Mr. Williams.

Junior Class.—Silver Medal, Mr. Strover. Certificate, Mr. Kingsford.

Chemistry.—Messrs. TAYLOR and AIKIN's Prize, Mr. Markham. Certificates, Mr. Longman, Mr. Whitby.

Midwifery.—Dr. ASHWELL's Prize.

Senior Class.—Mr. Chas. Taylor. Certificate, Mr. Knowles.

Junior Class.—Mr. Skinner. Certificate, Mr. Bedford.

Practice of Medicine.—Drs. BRIGHT and ADDISON's Prizes.

First Prize, Mr. Eales. Second ditto, Mr. Remington.

A copy of Swan on the Nerves, 4to. edition, was presented to each of the following gentlemen:—Mr. Hare, Mr. Hind, Mr. Brett, Mr. Rose.

Botany.—Mr. JOHNSON's Prize, Mr. Bird. Certificate, Mr. Longman.

Mr. MORGAN'S OPHTHALMIC PRIZES:—Gold Medal, Mr. Scott. 1st Silver ditto, Mr. Couch. 2d ditto, Mr. Menzies.

PHYSICAL SOCIETY'S PRIZE:—Mr. W. C. Brereton. Certificate, Mr. N. Chivers.

ST. BARTHOLOMEW'S HOSPITAL.

Practice of Medicine.—First Prize, E. Newton, Hexham, Northumberland. Second ditto, W. Bedford Kesteven, London.

Clinical Medicine.—Prize, W. Bedford Kesteven, London.

Surgery.—1st Prize, Thomas Hitchings, Oxford. 2d ditto, William Francis, Exeter. 3d ditto, Thomas Whateley, Bedford. Honorary Certificate, F. H. Warren, Exeter.

Clinical Surgery.—Prize, W. F. Barlow, Writtle, Essex.

Anatomy.—Senior Class: 1st Prize, Thomas Hitchings, Oxford. 2d ditto, W. H. Duff, London. Honorary Certificates, W. Francis, Exeter; Thomas Whateley, Bedford.

Junior Class: Prize, Henry Smith, Plymouth. Honorary Certificates, A. C. Brownless, Paynetts, Kent; P. Howell, Brighton.

Practical Anatomy.—Prize, John Havers, Thelthall, Norfolk.

Materia Medica.—1st Prize, Henry Lionel Cowen, Jamaica. 2d ditto, Edward Newton, Hexham.

Midwifery.—1st Prize, W. F. Barlow, Writtle, Essex. 2d Prize, Thomas Hitchings, Oxford. Honorary Certificate, Thomas Whateley, Bedford.

UNIVERSITY COLLEGE.

Practical Anatomy.—Professor R. QUAIN.

Gold Medal, F. W. Mackenzie, Clifton, Bristol. 1st Silver Medal, A. Keyser, London. 2d ditto, W. T. Borthwick, Belfast; and F. Chapman Kingston.

Honorary Certificates, Messrs. J. Plomley, C. B. Dyer, W. Wood, W. J. Elliot, J. G. Moyle, J. MacLise, T. L. Watkin, W. Carr, E. Lankester.

Anatomy and Physiology.—Professor SHARPEY, M.D.

Gold Medal, J. P. Potter, Kensington. 1st Silver Medal, W. R. Ancram, Edinburgh. 2d ditto, E. Parkes, London. Honorary Certificates, J. W. Agnew, J. MacLise, E. Woolridge, F. Chapman, B. Hobson, A. Campbell, H. J. Carter, R. R. Dowse, G. Mottley.

Practice of Medicine.—Professor ELLIOTSON, M.D.

Gold Medal, J. D. George, Romsey. 1st Silver Medal, J. B. Tailor, Woodbridge, Suffolk. 2d ditto, C. Millar, Knutsford Cheshire, W. Jenner, D. Everett. Honorary Certificates, E. J. Erickson, E. Jay, W. J. Poppleton, J. Lewis.

Surgery.—Professor S. COOPER.

Gold Medal, J. R. Moore, Newcastle. 1st Silver Medal, W. Mackenzie, Clifton. 2d ditto, W. Carr, Leeds. Honorary Certificates, E. J. Erickson, R. C. Roberts, T. L. Watkins, E. Lankester, J. M. Gane, E. Parry, R. Jenkins, A. Ball, F. Chapman, C. Millar, J. Prankerd, W. B. Gaskell, G. Ridsdale, J. Plomley.

Midwifery.—Professor DAVIS, M.D.

Gold Medal, F. W. Mackenzie. 1st Silver Medal, C. Millar, Knutsford. 2d ditto, W. M. Trowsdale, Sheffield. Honorary Certificates, E. Lankester, W. A. Plues, A. Keyser, W. Carr, R. J. Moore, J. Plomley, J. Prankerd, T. J. Vawdrey, S. Thomson, W. Jenner, C. Sprague, J. W. Agnew, J. M. Gane.

Materia Medica.—Professor THOMSON.

Gold Medal, W. R. Rodgers, London. 1st Silver Medal, J. S. Beck, Newcastle. 2d ditto, C. E. Hopkins, London. Honorary Certificates, J. Peterkin, W. Camps, C. P. Croft, W. Donald, J. Denton, J. R. Clarkson.

Medical Jurisprudence.—Prize, F. J. Mouat, London. Honorary Certificates, E. Overbury, G. Calder, and W. Hardwicke.

Chemistry.—Mr. W. TURNER.

Gold Medal, T. Cubit, London. 1st Silver Medal, R. D. G. E. Rodgers. 2d ditto, J. D. George, Romsey. Honorary Certificates, T. F. Beck, V. T. Hurtado, C. Macleod, G. Redford, H. C. Stewart, E. O. Pinto, W. Way, H. W. Ellis, W. Donald, F. J. Bellingham, and J. Blake.

Comparative Anatomy.—Professor R. GRANT, M.D. Gold Medal, F. P. Potter. First

Silver Medal, H. J. Carter, Exeter.
Honorary Certificates, E. Hobson, A.
Keyser, E. Lankester, F. J. Mouat.

Botany.—Professor LINDLEY.

Prize, W. H. Jenner, Rochester. 2d ditto,
E. Lankester, Woodbridge, Suffolk.

KING'S COLLEGE.

Anatomy.—Mr. PARTRIDGE.

Prize, Mr. A. Smee. Honorary Certifi-
cates, F. Cox; C. Mathias.

Physiology.—Dr. TODD.

Prize, Mr. A. Smee. Honorary Certifi-
cates, J. J. Acheson; W. M. Prichard.

Botany.—Professor DON.

Prize, F. O. Ward. Honorary Certifi-
cates, W. Davis; S. H. Ward.

Chemistry.—Professor DANIELL.

Prize, R. J. Spitta. Honorary Certifi-
cates, W. Furnival; J. Stanton.

Materia Medica.

Prize, Mr. Js. Bartram, Bath. Ho-
norary Certificates, J. Hensley, Bath;
S. Waudby, Ross.

Surgery.—Mr. ARNOTT.

Prize, W. Furnival. Honorary Certificates,
J. Cox; Js. Bartram.

Practice of Medicine.—Dr. WATSON.

Prize, W. Furnival. Honorary Certificates,
F. P. M'Dougal; J. Cox; J. Acheson.

Midwifery.

Prize, W. M. Prichard, Bristol. Ho-
norary Certificates, J. Wordsworth; J. J.
Acheson; J. G. Atkinson.

Comparative Anatomy.—Professor R. JONES.
Prize, W. M. Prichard.

General Medical Proficiency.

Prizes, P. F. M'Dougal; W. M. Prichard.

Exemplary Conduct.

Prizes, Mr. J. F. Woody; Mr. W. Davies.

ST. GEORGE'S HOSPITAL.

Practice of Medicine.—Dr. MACLEOD and
Dr. SEYMOUR. Prize, Mr. Perry
Dicken. Honorary Certificate, Mr.
Henry Jewel.

Materia Medica.—Dr. SEYMOUR and Dr.
MACLEOD. Prize, Mr. Frederick Night-
ingale.

Surgery.—Mr. CÆSAR HAWKINS and Mr.
BABINGTON. Prize, Mr. Alfred Smith.
Honorary Certificates, Mr. Perry Dicken,
Mr. Henry Jewel, and Mr. Edmund
Young.

Midwifery.—Dr. LEE. Prize, Mr. John
Cook. Honorary Certificates, Mr. Perry
Dicken, and Mr. John Taylor.

Anatomy.—Mr. TATHAM. Senior Prize,
Mr. Edmund Young. Senior Honorary
Certificate, Mr. Perry Dicken. Junior

Prize, (Mr. H. J. Johnson), Mr. Alfred
Warden. Junior Honorary Certificate,
(Mr. H. C. Johnson), Mr. George Ban-
nister, Mr. Henry Hills.

MIDDLESEX HOSPITAL.

Anatomy and Physiology.—Prize, Mr. F.
Whitwell. 1st Certificate, Mr. Robert-
son. 2d Certificate, Mr. R. D. Pyper.
Mr. SHAW'S Prize, Mr. Robertson. 1st
Certificate, Mr. F. Whitwell. 2d Cer-
tificate, Mr. Hyett.

Mr. LONSDALE'S Prize, Mr. R. D. Pyper.
1st Certificate, Mr. F. Whitwell. 2d
Certificate, Mr. Hayes.

Practice of Medicine.—Dr. COPLAND'S 1st
Prize, Mr. Dulvey. 2d ditto, Mr. Cave.
3d ditto, Mr. Harrison. 4th ditto, Mr.
R. Axford.

Surgery.—Mr. MAYO'S Prize, Mr. M'Cann.
1st Certificate and Prize, Mr. R. D.
Pyper and Mr. F. Whitwell; equal.

Midwifery.—Dr. SWEATMAN'S, sen. Prize,
Mr. G. E. Pocock. 1st Certificate, Mr.
Hyett. Junior Prize, Mr. A. R. Smith.
1st Certificate, Mr. Axford.

Materia Medica.—Dr. MACREIGHT'S 1st
Prize, Mr. Dulvey. 2d ditto, Mr. R.
Pyper. Certificate, Mr. Hyett.

Chemistry.—Mr. EVERITT'S, sen. Prize,
Mr. Dolman. 1st Certificate, Mr. R.
Pyper. Jun. Prize, Mr. Dulvey.

WESTMINSTER SCHOOL OF ME- DICINE.

Anatomy and Physiology.—Lecturers:—Mr.
MALYN and Mr. HILLES. 1st Prize, Mr.
W. R. Warwick, Newark. 2d ditto, Mr.
Scott, Sutherland.

Practical Anatomy.—Mr. H. HANCOCK.
1st Prize, Mr. Thomas Yate, London.
2d ditto, Mr. W. R. Warwick, Newark.

Materia Medica.—Dr. STEGGALL. 1st
Prize, Mr. Wilkins, Davenport. 2d
ditto, Mr. Maujier, Guernsey.

Chemistry.—Mr. CRUMP. 1st Prize, Mr.
Wilkins, Davenport.

Principles and Practice of Medicine.—Mr.
BURNE. 1st Prize, Mr. W. R. War-
wick. 2d ditto, Mr. John Scott, Suther-
land.

Surgery.—Mr. GUTHRIE and Mr. HALE
THOMSON. 1st Prize, Mr. Galway,
London. 2d ditto, Mr. Scott, Suther-
land.

Midwifery.—Mr. NORTH and Mr. GRIF-
FITH. 1st Prize, Mr. Wilkins, Daven-
port. 2d ditto, Mr. Galway, London,
and Mr. Parker, St. Neots.

Botany.—Mr. THURNAM. Prize, Mr.
Oliver Maujier, Guernsey.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns up to Tuesday, May 23, 1837.)

	PRICE.						DUTY.	DUTY PAID	
	£ s. d.			£ s. d.				In 1837 to last week.	Same time last year.
Aloes, Barbadoes, D.P. c	12	0	0	to 30	0	0	{ B P. lb 0 2 } F. lb 0 8 }	33,692	41,238
Hepatic (dry) BD. c	5	0	0	14	0	0			
Cape, BD. c	1	10	0	1	16	0	F. lb 1 4	251	613
Aniseed, Oil of, German, D.P. lb	0	9	0	0	9	6	E. I. 1 4	517	90
E. I. lb	0	7	0	0	7	6	c 6 0	1	56
Assafoetida, B.D. c	0	2	10	0	5	0	lb 0 1	401	1,312
Balsam, Canada, D.P. lb	0	1	3	0	1	4	c 4 0	109	105
Copaiba, BD. lb	0	2	7				lb 1 0	224	1,085
Peru, BD. lb	0	5	0				c 4 0	40	28
Benzoin (best) BD. c	25	0	0	50	0	0	c 1 0	236	193
Camphor, unrefined, BD. c	9	0	0				lb 1 0	11,952	8,453
Cantharides, D.P. lb	0	5	6				lb 4 0	585	794
Carraway, Oil of, D.P. lb	0	9	0				lb 0 1	2,096	3,499
Cascarilla or Eleutheria Bark, D.P.C. lb	1	15	0				lb 1 4	1,244	2,736
Cassia, Oil of, BD. lb	0	9	0				c 1 3	{ 2,750	2,818
Castor Oil, East India, BD. lb	0	0	6	0	0	10			
West I. (bottle) D.P. 1½ lb	0	2	3				{ lb 0 6	147	668
Castoreum, American lb	1	15	0						
D.P. Hudson's Bay lb	1	0	0	1	4	0	c 1 0	15,366	3,569
Russian lb				none			{ lb 0 1	81,010	35,990
Catechu, BD. c	1	0	0						
Cinchona Bark, Pale (Crown) lb	0	2	0	0	3	6	{ lb 0 2	4,003	6,579
BD. Red lb	0	3	0	0	6	0			
Yellow lb	0	1	5				lb 0 2	7,561	4,915
Colocynth, Turkey lb	0	2	6	0	4	0	lb 0 6	13,451	10,999
D.P. Mogadore lb	0	3	0				c 4 0	47	51
Calumba Root, BD. c	1	4	0	2	5	0	c 4 0	318	106
Cubebs, BD. c	3	0	0				c 6 0	16	
Gamboge, BD. c	5	0	0	15	0	0	{ c 6 0	1,530	4,536
Gentian, D.P. c	1	4	0						
Guaiacum, D.P. lb	0	1	0	0	1	8	c 6 0	819	1,384
Gum Arabic, Turkey, fine, D.P. c	8	0	0	9	0	0	c 6 0	242	1,683
Do. seconds, D.P. c	5	0	0	7	0	0	c 6 0	143	85
Barbary, brown, BD. c	3	19	0				lb 0 1	1,746	19,901
Do. white, D.P. c	4	15	0				lb 1 0	5,340	4,996
E. I. fine yellow, BD. c	3	0	0	3	10	0	lb 0 6	30,418	18,245
Do. dark brown, B.D. c	1	15	0	2	5	0	{ lb 0 3	13,042	5,425
Senegal garblings, D.P. c	4	15	0	5	0	0			
Tragacanth, D.P. c	13	0	0	20	0	0	oz 6 0	819	623
Iceland Moss (Lichen), D.P. lb	0	0	2½	0	0	3	c 6 0	73	96
Ipecacuanha Root, B.D. lb	0	3	0				lb 2 6	838	859
Jalap, BD. lb	0	1	10				lb 1 0	13,699	14,196
Manna, flaky, BD. lb	0	5	0				lb 4 0	515	167
Sicilian, BD. lb	0	1	7				lb 0 1	88,217	119,255
Musk, China, BD. oz	1	0	0	1	8	0	lb 1 0	13,265	19,169
Myrrh, East India, BD. c	5	0	0	14	0	0	{ F. lb 1 0	3,182	3,123
Turkey, BD. c	2	0	0	11	10	0			
Nux Vomica, BD. lb	0	8	0	0	9	0	lb 1 0	2,276	2,064
Opium, Turkey, BD. lb	0	15	6	0	16	0	lb 0 6	49,110	44,229
Peppermint, Oil of, F. BD. lb	1	0	0				{ lb 2 6	3,865	3,857
Quicksilver, BD. lb	0	3	8						
Rhubarb, East India, BD. lb	0	2	0	0	3	6	E. I. lb 0 6	46,335	39,451
Dutch, trimmed, D.P. lb	0	3	6	0	4	6	{ Other sorts 0 6	30,610	36,708
Russian, BD. lb	0	8	3						
Saffron, French, BD. lb	1	0	0						
Spanish lb	1	1	0						
Sarsaparilla, Honduras, BD. lb	0	1	0	0	1	9			
Lisbon, BD. lb	0	2	0						
Scammony, Smyrna, D.P. lb									
Aleppo lb	0	12	0	0	15	0			
Senna, East India, BD. lb	0	0	3	0	0	4			
Alexandria, D.P. lb	0	1	6						
Smyrna, D.P. lb	0	1	0	0	1	3			
Tripoli, D.P. lb	0	1	0	0	1	3			

†‡‡ BD. In Bond. — c. Cwt. — B. P. British Possessions. — F. Foreign. — D. P. Duty paid.

STUDENTS' MEDICAL AND SURGICAL SOCIETY.

To the Editor of the Medical Gazette.

SIR,

IT has often appeared to me that the intercourse between the pupils of the different medical schools of this metropolis is far too limited, and that great advantages might accrue from the formation of a Students' Medical and Surgical Society; of which the pupils of each and every school should be eligible to become members.

And this opinion is borne out by the fact that the want of such societies has been so deeply felt, both by the students of Edinburgh and of Dublin, as already to have led to the formation of one in each of these places. The Royal Medical Society of Edinburgh has for years held a distinguished rank amongst our medical societies, and the Dublin Medical and Surgical Society has been formed within the last two years. The success that has attended these institutions calls loudly for the exertions of the great body of students in London. If further instances are wanting to show the utility of Students' Societies in general, those of Oxford and Cambridge may be referred to.

The great object to be held in view, in constituting a London Medical and Surgical Society, would be the mutual improvement of its members; and this object, I feel convinced, would be fully realized in a variety of ways.

The facilities that would be afforded for rational intercourse and for free exchange of opinion, would of themselves serve as sufficient reasons to justify an attempt of this nature; but others of greater force suggest themselves, when we consider that not only would advantages arise from the communication of the individual opinions of its members one to the other, but also the knowledge of every one would be materially enriched by the general diffusion of the views entertained by the eminent men engaged as lecturers in the different schools, as well as by the explanation of the various modes of practice adopted in the several hospitals which the members might attend. In addition to these great advantages, the excitement of a praiseworthy and useful emulation—the encouragement of a spirit of scientific inquiry—the genial influences of which medical science stands so much in need of—the check it would give to the evil so prevalent in our profession, of forming partial inductions, and advancing notions without mature consideration as to the

facts they are grounded upon; and lastly, though not least, the habit of speaking in public, and of communicating our ideas in an easy and methodical manner,—are ends the attainment of which every one will acknowledge as desirable.

Let, then, the students of this metropolis look that they fall not behind their Scotch and Irish neighbours; let a few of them collect together, call a general meeting, and at that meeting appoint a committee (composed of students from every school), whose duty it shall be to draw up a code of rules; and the first step being thus taken, they may rest assured that their subsequent progress will be both easy and successful.

If, sir, you consider this letter worthy of insertion in your valuable journal, and you can at all forward the project I have imperfectly endeavoured to set on foot, you will oblige, sir,

Your obedient servant,
PHILOMATHES.

May 17, 1837.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, May 23, 1837.

Abscess	3	Fever, Typhus	1
Age and Debility	25	Heart, diseased	1
Apoplexy	6	Hooping Cough	7
Asthma	11	Inflammation	22
Childbirth	1	Brain	2
Consumption	45	Lungs and Pleura	4
Convulsions	16	Influenza	1
Croup	1	Liver, diseased	2
Dentition or Teething	5	Measles	10
Diabetes	1	Mortification	3
Diarrhœa	1	Paralysis	4
Dropsy	9	Small-pox	5
Dropsy in the Brain	14	Spasms	1
Dropsy in the Chest	1	Thrush	1
Erysipelas	1	Unknown Causes	19
Fever	1		
Fever, Scarlet	1	Casualties	3

Decrease of Burials, as compared with }
the preceding week } 106

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>May.</i>	THERMOMETER.		BAROMETER.	
	from 40 to 55		30·12 to 30·10	
Thursday . 18	32	53	30·04	30 01
Friday . . 19	28	53	29 95	29·86
Saturday . 20	30	49	29·73	29·70
Sunday . . 21	27	53	29·70	29·82
Monday . . 22	30	58	29·86	29·90
Tuesday . . 23	23	62	29 89	29·86
Wednesday 24				

Winds, N.W. and N.E.
Except the 18th and the evenings of the 19th, 21st, and 22d, generally cloudy, with frequent showers of rain.
Rain fallen, ·1625 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JUNE 3, 1837.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE XIV.

Gout may affect the Spinal marrow.—Combination of Arthritic Inflammation with Bronchitis—Effects of various remedies, particularly mercury—Effects of this in chronic bronchitis—Dr. O'Beirne's plan of rapid mercurialization in certain affections of the joints—Application of the same method to inflammation of the lungs of scrofulous character—Cases in illustration.

In the two preceding lectures we proved that gout often attacks the nerves of the extremities in the first instance, and then pursues a retrograde course until it reaches the spinal marrow. It is an acknowledged character of gout that it wanders from one organ to another, and that it is very uncertain as to the periods and duration of its attacks, sometimes appearing to have ceased altogether, again only to return with redoubled violence. These characters of gout are strikingly displayed in the two cases I have related, where it finally seized on the spinal marrow; and it is quite possible that what took place towards the fatal terminations of these cases, may in other gouty subjects occur at a much earlier period, and without the previous occupation by the disease of the nerves of the extremities: indeed, there is no reason why gout should not attack the spinal marrow and its investing membranes in the first instance, or in consequence of metastasis. That rheumatism, the disease most closely allied to gout, may do so, has been proved by numerous examples, of

which we owe some of the most striking to Dr. Copland and Dr. Prichard, for the result of whose researches on this subject I must refer you to the article Chorea, in Copland's Dictionary of Practical Medicine, where you will find that rheumatism not unfrequently produces both acute and chronic inflammation of the spinal membranes. These observations I make with the intention of proving that my views concerning gouty affections of the spinal cord are borne out by analogy, and the experience of others with respect to rheumatism.

The case of Coghlan, who has been for some time an inmate of our chronic ward, demands a few observations. He was admitted for an attack of arthritis on the 10th of December, and since that period has been subjected to various modes of treatment. You will recollect that on his admission he stated that he had been attacked several times with rheumatic inflammation of the joints. Like most persons of his class, he has suffered greatly from repeated fits of illness, brought on by exposure to the same causes. One of the greatest misfortunes that can fall upon labouring men, is a severe attack of rheumatic fever accompanied by inflammatory affections of the joints; it not only renders them helpless and useless for a considerable time, but also in some cases leaves them cripples for life, and in addition, the nature of their employment constantly exposes them to relapses, which at length bring on incurable affections of the joints: we have, moreover, in this young man's case, a combination not unfrequent in patients of this description, namely, the effects of cold on the chest as well as on the joints; arthritis combined with inflammation of the bronchial mucous membrane. Now where the arthritic affection is very severe, and accompanied by high fever, the addition of bronchitis is a great aggravation. Every time the patient coughs he feels like one stretched upon

the rack; at every convulsive motion of the chest a severe pang is felt in every joint, and the ordinary rate of suffering is increased to positive agony. A case of this kind is often hard to be managed, even when the disease is recent and the constitution sound; but when you have to treat a severe attack in a person who has repeatedly laboured under the disease, and whose vigour has been consequently impaired, the difficulty is greatly increased. Here much attention is required on the part of the physician. Where the combination is met with in a primary attack, I am generally disposed to regard both affections as of the same character, and not requiring any difference of treatment: I therefore attack the arthritis and the bronchitis with the same remedies, that is to say, venesection, leeches to the affected joints and over the chest, and large doses of nitre and tartar emetic. These remedies, however, are only calculated for the acute stage of a primary attack, and where the patient's strength is unimpaired; for when the disease is chronic, and debility present, you cannot venture on the use of large doses of tartar emetic and nitre. In such cases much benefit is derived from the use of colchicum, particularly where the patient labours under more or less fever. The following is the form which I am in the habit of using, and from which I have occasionally derived much benefit.

Rx Misturæ Amygdalarum, ℥viij.; Aceti Colchici, ℥ss.; Acetatis Morphiae, gr. i.; Nitratis Potassæ, ℥ss.; sumat cochleare unum amplum omni vel secundâ quaque horâ.

In Coghlan's case we tried this mixture with local applications to the joints and a blister to the chest, but found at the end of some days that there was no visible improvement in the patient. Now whenever a state of things of this kind occurs, no time should be lost; for rely on it, that where colchicum does not afford relief *in a short time*, and *in moderate doses*, there is no use in giving it a further trial. You have here to contend with two affections of a very serious character—one capable of rendering your patient a cripple for life, the other threatening him with suffocation, from an extension of the inflammation into the minute bronchial tubes, an occurrence which is most commonly followed by dangerous congestion of the lung. Under such circumstances, the only treatment you can adopt with a hope of speedy relief and ultimate success, is to lay aside all other remedies, and trust almost exclusively to the use of mercury. In cases of this kind do not hesitate a moment, but mercurialize your patient at once, if his constitution be at all capable of bearing it.

The treatment which was followed in the case under consideration was this:—we gave the patient ten grains of hydrargyrum cum cretâ, four times a day; and with the view of relieving pain and the irritation of the bronchial mucous membrane, he took one drop of hydrocyanic acid and ten drops of tincture of hyoscyamus, in half an ounce of almond emulsion, three times daily.

Permit me here, gentlemen, to direct your attention for a moment to the influence which mercury exercises over inflammatory affections of the joints, and over certain forms of inflammation of the mucous membrane. I, in common with most practitioners, look upon mercury as a most valuable remedy in the treatment of arthritic inflammation, and in certain forms of bronchitis, but I do not, however, advise its indiscriminate employment, or bid you mercurialize every case of bronchitis or arthritic inflammation; you can cure very many cases of both without mercury, and you should only have recourse to it in emergencies, of which I shall speak afterwards, and where other remedies have failed. In treating bronchitis in general, I always try bleeding, leeching, blisters, and expectorants, before I have recourse to mercury. But where these fail, and the disease continues to wear a threatening aspect, you will often find that mercury will cure it in a very rapid and surprising manner. You had an example of this in a boy who was lately under treatment in the chronic ward. He had severe laryngitis, with an extensive inflammation of the smaller bronchial tubes, great dyspnoea, and considerable congestion of the lung, and you perceived that the moment he came under the influence of mercury all his symptoms were ameliorated. We gave the mercury originally for the laryngeal affection, but in giving it remarked that it would also cure the bronchitis, and such was actually the case. Observe, I do not give mercury in bronchitis as a general rule,—it is often unnecessary, and even sometimes wholly inadmissible. I will except from this that severe form of bronchitis, with congestion of the lung, in children after measles, which is best treated with calomel and ipecacuanha, as recommended by Dr. Cheyne. Many children were lost by severe attacks of this form of bronchitis, and by hooping-cough, accompanied by congestion of the lung, until Dr. Cheyne hit upon this simple but effectual plan of treatment. But in ordinary bronchitis of an acute character, and producing a tendency to congestion of the lung, I do not prescribe mercury until other means have failed.

Now I believe every practical man is

aware that mercury is one of the best remedies we can employ in many cases of acute and subacute bronchitis, but perhaps it is not generally known, that even in some cases of chronic bronchitis, that is to say, where the patient labours under chronic catarrh, with asthmatic symptoms, not only relief, but even a complete cure, is occasionally effected by the use of mercury. One of the first cases of this kind which struck me very forcibly, was under the care of Mr. Porter. The patient, who laboured under an attack of venereal laryngitis, had at the same time chronic bronchitis, with puriform expectoration and hectic, and as the use of the stethoscope was not then well understood, was supposed to be labouring under phthisis. From the violence of the laryngeal symptoms, however, Mr. Porter was obliged to give mercury, which not only arrested the laryngeal inflammation, but also cured the chronic bronchitis. I recollect, also, the case of an elderly gentleman, treated by surgeon Mitchell, of Harcourt Street, for an attack of very long-continued chronic bronchitis, with asthmatic symptoms, and who was subject to paroxysms of coughing and violent dyspnœa, which sometimes lasted for twelve hours together. Now this gentleman, after the failure of various remedies, took mercury, and with the most marked and permanent relief of his pulmonary symptoms. I was, it must be confessed, greatly surprised by the effects of mercurialization in this case, and it was quite a novel thing to me to witness a chronic, a very chronic bronchitis, with copious expectoration and frequently recurring dyspnœa, aggravated so as to endanger life by the least cold; it was, I say, novel to me to see a patient so affected, radically cured by a mercurial salivation. Perhaps, however, nothing but the absolute refusal of the disease to yield to other remedies, could authorize the adoption of such a plan in the present state of our knowledge.

This puts me in mind of a plan which I have adopted within the last year, in the treatment of certain diseases of the lungs, and on which I shall make a few observations, as it has not been spoken of by those who treat of the cure of pulmonary affections. I must here in justice confess that the idea of this plan of treatment is not solely mine, but was founded on an analogy derived from the researches and experiments of Dr. O'Beirne, on scrofulous inflammation of the joints. An extensive experience and deep reflection first led Dr. O'Beirne to think that the acute stage of scrofulous inflammation of the hip and knee joint might be made amenable to active and energetic treatment; in other words, that inflammatory

affections of the joints, which terminate in some of the worst and most fatal forms of disease, namely morbus coxæ and white swelling, might be checked in *limine*, and before the stage of hopeless ulceration was established. He therefore proceeded boldly and at once to try whether the disease might not be arrested in the commencement by rapid mercurialization.

Observe, gentlemen, this idea was completely new, it had never occurred to any other person, and was diametrically opposed to the theories of the day. The prevailing opinion on this subject was, that mercury was inadmissible, and could only produce mischief in persons of the scrofulous diathesis. Every one said, do not give mercury in such a case, it exacerbates scrofula, it even brings on scrofula in many instances where there had been no appearance of it previously; you can do no good with it, and may do infinite mischief. Dr. O'Beirne, however, knew the difference between the proper and improper exhibition of mercury—between mercurializing the patient at once and fully, and then stopping, and the pernicious custom of giving long and irregular courses of mercury. He tried the remedy and succeeded, and the surgeons of Europe have justly appreciated the value and importance of his discovery. About two or three months before Dr. O'Beirne made his discovery public, I had translated, for the Dublin Medical Journal, a paper from a German author on the use of corrosive sublimate in baths, in the treatment of white swelling, and Dr. O'Beirne states that the publication of this paper gave him courage at the time in pursuing a plan of treatment so much at variance with the opinions of the day. I published this paper, however, at the time merely as a curiosity; it was a novelty in practice of which I had no experience, and could not offer any explanation. This was reserved for Dr. O'B. He has shewn in his memoir on the subject, that if you give mercury so as to affect the system rapidly, you will frequently succeed in curing the disease, particularly in the commencement.

From this I was led by analogy to apply the same principle of treatment to incipient scrofulous inflammation of the lung, and I think I have often succeeded in checking at once this most formidable of human maladies. Phthisis, as every medical man knows, is capable of assuming a variety of forms, and presents at its origin much difference of aspect. In some, it arises slowly and insidiously, and the pulmonary symptoms are so quietly and gradually developed that it would puzzle an intelligent practitioner, who had the most ample opportunities of observing his patient from the beginning, to say at what particular

period distinct evidence of danger had been noticed. The reason of this is because the tubercular affection of the lung is in such patients only of secondary importance, the disease which produced it having affected the whole system before the lung was contaminated. This happens in some, but in others an opposite train of phenomena is observed, and scrofulous inflammation commences in the lung before any general contamination of the system has taken place. It is in such cases, and such only, that mercury ought to be tried, and it will avail nothing except where the commencement of the scrofulous inflammation of the lung has arisen suddenly, and in consequence of the operation of some obvious cause, as catching cold or the occurrence of hæmoptysis. I think that too much stress has been laid on the affection of the lung by writers on phthisis. In some cases (I will admit even in the majority of instances,) the disease commences in the lung, but in others it passes through many changes and affects various organs before it attacks the lung. You will frequently see persons labouring under scrofulous irritation, accompanied by hectic, emaciation, loss of appetite, and excitement of pulse, long before you can find any trace of tubercular deposition in the lung. I am of opinion that many persons would die of phthisis even supposing they had no such organ as the lung.

But let us suppose the case of a person of scrofulous habit who gets an attack of fever, with local inflammation, and that this inflammation fastens on the lung. Take for instance the following case: a young man of robust and vigorous frame, but evidently of the scrofulous habit, who has laboured repeatedly under scrofulous ophthalmia in his infancy, and who has lost several members of his family by consumption, gets, we will suppose, a severe cold by overheating himself in walking into Dublin from the country on a damp evening. He is attacked next day with feverish symptoms and severe catarrh, which soon becomes a formidable bronchitis; but the young man being of a vigorous habit and fond of company, continues to go out and expose himself to night air, until at length the catarrhal fever is changed into hectic, the bronchitis into organic disease of the lungs, tubercles become developed, and the disease passes into phthisis. Here, you perceive, a man gets an ordinary cold, which becomes a bronchitis; he neglects this, and it passes into disease of the pulmonary tissue and tubercular ulceration. Now this is a very common course of diseased action in persons of a scrofulous habit, and I have in many such cases been able to trace the fatal malady to a common cold exacerbated by

neglect and bad treatment. You perceive I do not use the ordinary nomenclature of writers on consumption; I do not recognize the terms "tubercular inflammation" as connected with cases of this description; indeed, I am inclined to think that the whole theory of inflammation being excited in the lung by the presence of tubercles is founded on erroneous views. I have repeatedly found tubercles in the lungs of persons who died of other diseases, without any trace of inflammation around them, and I believe every pathologist will confirm this statement. From this and other reasons, I have been led to the conclusion that tubercles do not act in all cases as foreign bodies, and that the theory which attributes the origin of inflammation to their presence is wrong. In one of my published lectures, I have brought forward numerous arguments to show that we are in possession of a much truer and more intelligible pathological explanation of the fact in question. You may have scrofulous inflammation of the bronchial mucous membrane, or you may have scrofulous inflammation of the lung singly or combined, or, what is most frequently the case, you may have either or both accompanied by tubercular development. The development of tubercles, however, in a case of scrofulous bronchitis or scrofulous pneumonia, is a coincidence, and not a cause; and you may have either of those affections singly or combined, without any coexistent or preceding tubercular development. Most commonly scrofulous bronchitis and scrofulous pneumonia are conjoined; the former seldom exists for any length of time without producing the latter, and the latter is usually attended by more or less derangement of the bronchial mucous membrane.

But what I chiefly wish to direct your attention to on the present occasion (and it is a matter of the deepest importance) is, can we prevent the development of phthisis in a person of scrofulous habit who has caught cold, got a dangerous attack of bronchitis or pneumonia, and is threatened with hectic? I do not wish to enter here into any disquisition concerning the means to be adopted with the view of preventing tubercular deposition, or producing absorption when tubercular matter has been deposited in the tissue of the lung. To prevent tubercular deposition you must cure the scrofulous diathesis if you can. But suppose you are called to a case of the kind I have already described, where a young man of scrofulous diathesis gets a bad bronchitis or pneumonia, exacerbates it by neglect, and is threatened with hectic, what is the best plan you can pursue? My impression is that you should treat it as you would treat acute scrofulous

inflammation of the knee or hip-joint; in other words, that you should mercurialize your patient rapidly and at once: do it suddenly and decidedly, but without pushing the mercury too far, and you will often arrest all the symptoms of the disease as it were by a charm. I could mention many cases which have been treated successfully in this way. I was very much struck by the case of two eminent medical practitioners who came to Dublin within this last year to place themselves under the care of Dr. William Stokes and myself. One was a person of scrofulous habit, who had caught cold after taking mercury, and neglected it for three weeks. At the time we saw him he laboured under severe and harassing cough, considerable fever and emaciation, and was greatly alarmed about his condition. He had been several times leeches over the trachea by Dr. Stokes, but this, although an admirable remedy in many cases of bronchitis, failed in producing an amelioration of his symptoms, and from the persistence of his feverishness, emaciation, and harassing cough, serious apprehensions were entertained that his disease would terminate in phthisis. Having explained to our patient our views of the case, and our impression that mercury was the only remedy on which we could rely with any hopes of success, we ordered him to confine himself to his room, continue the application of leeches to the trachea, and take mercury. Now as this gentleman had come up to town under the impression that he was consumptive, we found some difficulty in persuading him to submit to this mode of treatment. He yielded, however, but with great reluctance. In the space of a week all his bad symptoms had nearly disappeared. As soon as he came under the influence of mercury the cough became notably diminished, and he recovered flesh and strength with surprising rapidity. The other was a physician from the north of Ireland, who was suddenly attacked by pulmonary apoplexy, and in a few weeks came to Dublin, harassed by a constant dry cough, which prevented sleep at night, and he was visibly emaciated and anxious. In him no hereditary tendency to phthisis could be ascertained, but nevertheless Dr. Marsh, Dr. Stokes, and myself, considered the case as very unpromising, for although there was no acceleration of the pulse, the breathing was easily disturbed, and we could detect crepitus and some dulness above the right mamma, where it was evident the original seat of the hæmorrhage had been. This case, too, which had resisted a mere antiphlogistic treatment, yielded in a most satisfactory manner to mercury.

Bearing these facts in mind, I think,

gentlemen, you will be prepared to admit that mercury is a most valuable remedy in the treatment of scrofulous bronchitis and scrofulous pneumonia—diseases which too often resist the ordinary modes of treatment, and which are unfortunately so often followed by fatal disease of the lung. Where a sudden attack of cold has produced inflammation of the substance or lining membrane of the lung in a person of scrofulous habit—where the attack is recent, and has occurred under circumstances which preclude any suspicion of previous tubercular disease—in such a case as this you will find mercury a most admirable remedy in checking symptoms often not amenable to other plans of treatment, and which if neglected or maltreated would in all probability end in phthisis. I was led to the adoption of this plan by the success which has attended Dr. O'Beirne's practice in acute scrofulous inflammation of the joints, and from observing that cases of unmanageable chronic bronchitis had been occasionally cured perfectly where mercury had been exhibited for other affections; and it is a curious fact that about the time I had fallen upon this mode of treatment, it suggested itself likewise to the minds of Dr. Stokes and Dr. Marsh, who can testify its utility: of course it will not succeed in all cases; and I have seen it fail in two where I had confidently expected benefit. Notwithstanding this it is a most valuable addition to our resources in certain cases that would end in phthisis.

About a year ago I attended a young gentleman, apparently of robust constitution, who died of phthisis ushered in by a frequently recurring hæmoptysis. Shortly after his death, Mr. William Grady, one of our most diligent and intelligent pupils, called on me to visit the elder brother of my former patient. He had a constant hard, dry, and very distressing cough, which deprived him of sleep, and having continued many weeks had produced a most formidable degree of emaciation. Consumption was naturally dreaded. His pulse, however, was normal, and the stethoscope did not indicate any pulmonary lesion: still, as the case had refused to yield to all the ordinary remedies, including change of air, we felt very apprehensive as to the result. I confined him to bed, applied leeches over the trachea several times, and rapidly mercurialized him, and with complete success. He has continued well ever since.

ERRATUM.—In Professor Graves' last lecture, page 258, line 20, *for* "his breath also improved greatly," *read* "his health also," &c.

A B S T R A C T
OF
LECTURES DELIVERED BEFORE
THE COLLEGE OF SURGEONS,

In April 1837,

BY PROFESSOR STANLEY.

LECTURE I.

IN the first lecture, after some short but well-directed remarks on the progress, present state, and prospects of the several branches of anatomy, Mr. Stanley proceeded to illustrate the law of the unity of plan governing the development and structure of all animals, which he pointed out had been noticed, and its universal application prophesied, by Sir Isaac Newton, in his "Treatise on Optics," who saw in the similarity of the animal bodies which he examined, evidence of choice and fundamental laws of uniformity, scarcely less marked than in the regular movements of the planetary bodies. Harvey, too, may be said to have announced the same principle in his remarks supporting the maxim, "Omne vivum ex ovo." The fact then obscurely known has since been clearly proved by the examination of the ova of all classes, and among the most interesting analogies of embryonic structure, is the presence of the umbilical vesicle in the early periods of the human embryo, which with its cavity continuous with that of the digestive canal, affords by the nutritive matter with which it is filled the support for the embryo previous to its attachment to the uterine walls, in precisely the same manner as that of the chick is effected during the whole period of its existence in the shell. This fact, illustrated by Velpéau and others, may be proved convincingly to any one present by the examination of a preparation in the possession of Dr. Sweatman, of which a representation was exhibited. It was suggested that a probable cause of abortion was a deficiency in this early nutritive apparatus, and that hence in many very young embryos found after abortions, it was still difficult to find.

Another remarkable case of unity found in embryos, is that of the presence of gills for the respiration of the very young embryos of mammalia, and which, though with great difficulty discoverable in the necks of human embryos, are with more ease traceable in other species, and have lately been exhibited by Mr. Owen, in the foetus of the kangaroo. Originally a minute artery runs along each of these cervical fissures, and it is found that by the enlargement of some and diminution of others of these true branchial arteries, the permanent arrangement of the adult body is produced,

affording a key not only to the apparent irregularities and want of symmetry in normal structures, but to the hitherto scarcely calculable alterations from the normal arrangements of the great vessels.

Through the whole series of mammalia seven vertebræ are found forming the neck, whatever be its length—whether we examine it when scarcely perceptible, as in the elephant, or in its extremely elongated form, in the giraffe. But it is found that, preserving the analogy with other classes, the transverse processes of all the cervical vertebræ have in some animal or another an additional osseous nucleus, forming a kind of abortive rib. This, however, is sometimes so developed as to approximate much more closely to the perfect form, and Professor Clark has in the Cambridge Anatomical Museum a preparation (of which a drawing communicated by him was shewn) in which there are found two floating ribs moveably articulated to the seventh cervical vertebra, and having the direction and nearly the size of the first true thoracic rib. It is part of an adult human skeleton. In the sloth, on the other hand, which Cuvier supposed to possess nine cervical vertebræ, and to form the only exception to the rule, Mr. Bell has found that there are still two floating ribs attached to the first and second dorsal vertebræ.

To the same principle may be referred those cases where organs are met with insignificant in size and apparent utility in one class of animals, but which are found performing a most important part in others. Thus the pyramidalis abdominis, small and unimportant, and sometimes even absent in man, are the representatives of the large muscles supporting the bone connected with their abdominal pouch. So with the plantaris: small, and probably nearly useless in man, it is found of more or less importance in all mammalia; and Meckel has occupied ten pages of his Comparative Anatomy in describing the various modes in which it is arranged to perform in different species appropriate functions.

Such seem to be some of the most interesting of the facts proving the great law, that throughout the animal kingdom, whatever may be the function which an organ is called on to perform, an uniformity of plan in its construction is to be observed, being carried on to more and more complexity and nearer to perfection as the amount of the function necessary to be performed increases. But this is no modern discovery: when Harvey described the heart of the embryo as having two ventricles of equal magnitude, and forming a double cone like the small twin kernels of a nut, and remarked the uterus

of the human embryo with its little tubuli representing the two-horned shape of the uterus of a lamb, he sketched an extensive outline which the labours of succeeding anatomists have been occupied in filling up. Of these none really contributed more, and none have had a more clear conception of the law, than Mr. Hunter, as illustrated by a passage in the introduction to the Catalogue of his Museum.

One great benefit which results from the knowledge of this law and the facts dependent on it, is the facility with which classes of organs may now be arranged, and general views of their structure drawn. Thus, in the admirable work of Müller (the Haller of our age) it is shown that in all classes, however complicated or however simple the structure of secretory glands may be, all are grounded on the one principle of obtaining the largest possible extent of secreting surface in the smallest possible space. All consist of excretory ducts more or less ramified, and with closed extremities, on the walls of which blood-vessels ramify. And from his examination of them in embryos, he shows their progress from the most simple tubular depression to the most composite organs of the body.

Another advantage which the observation of the progress of the various organs during development gives, is, that it enables us to explain many points both in normal and anormal arrangements in the body, which otherwise appear perfectly inexplicable. The tendon of the biceps, for instance, is in the early embryo altogether outside the shoulder-joint, but in succeeding periods becoming, as it were, protruded into the cavity, it carries upon and after it a duplicature of the synovial membrane, which attaches it to the upper wall like a mesentery. But this double fold soon splits and disappears, and the tendon is left, passing through the cavity of the joint, surrounded by synovial membrane, which is continuous with that lining the capsular ligament only at its two extremities. This process presents a striking analogy to that by which a piece of cartilage, at first external to a joint, gradually protrudes into it with a prolongation of synovial membrane, which becoming gradually more and more thin, at last breaks, and the cartilage remains loose in the cavity.

In the knee joint the ligamentum mucosum and lig. alaria are somewhat similarly explicable. In the early embryo a broad duplicature of synovial membrane passes, like a mediastinum, from the fore part of the joint to the crucial ligaments, dividing it into two lateral portions. But

as the condyles increase in size this partition disappears, and nothing is left of it at last but its central portion, constituting the lig. mucosum and its lateral parts, which form the lig. alaria by the sides of the patella.

In correspondence with this process we find that, in the calf, this condition, which disappears early in the human embryo, is permanent, and that a perfect septum divides the joint into an anterior and posterior cavity; and that in the *ornithorynchus paradoxus* a similar division exists.

The course of the recurrent nerve is explicable without referring to any particular functions it could be supposed to favour. Tiedemann has shewn that in the short neck which the early embryo possesses, the first branch which the aorta gives off arises opposite the lower margin of the face, and therefore almost on a level with the origin of the recurrent nerve, which at this time passes straight to the larynx. But as the neck elongates, the subclavian arteries descend, and bring down the nerve with them. This is confirmed by those rare cases of anormal arrangement in which the right subclavian, arising on the left side of the chest, passes across the œsophagus to the other side; for in these the inferior laryngeal nerve of the right side has not a recurrent course, but passes straight to the larynx, as shewn in a preparation in the museum of the College of Surgeons in Dublin, of which a drawing was exhibited. Other instances of a recurrent course of nerves are found in the dental nerves of porcupines and other rodentia, as shewn in a specimen where the filament supplying the incisor tooth, arising in the middle of the dental canal, is obliged to return at an acute angle to reach the pulp of the tooth.

How much interest, too, is connected with the observation that the lineæ transversæ of the rectus abdominis in man, are but imitations of the perfect bones which are found in the crocodile and other reptiles, where it is divided more clearly into separate muscles, with distinct attachments for the better support of the abdomen.

So, too, the peritoneum, whose arrangement, as commonly described, seems so intricate, and is often unintelligible, thus considered, is rendered perfectly clear; for Meckel and Müller have shown how, by the change which the stomach undergoes from the vertical to the transverse position, the great omentum, the posterior peritoneal cavity, with the so-called foramen of Winslow, and all the other singular arrangements of this membrane, are produced.

The history of development, teaching that many regions and organs of the body are originally formed in two lateral halves, which subsequently unite in the median line, presents an explanation of their almost complete division in after life. For example, the injection thrown into one lingual artery, as in the specimen shewn, has passed to the tissue of that side only, and in cases of glossitis it sometimes happens that the swelling and redness terminate abruptly in the median line. In affections of the face, too, the acute pain of neuralgia, and the loss of sensation and motion of hemiplegia, are alike limited to one side; and the distribution of the thyroid arteries, as seen in the exhibited preparation, all tend to show that the communication between either the vessels or nerves of the opposite sides of the body is very limited.

In the urinary and genital organs of both sexes, many very interesting relations are observable in the foetus. Professor Stanley had many years ago remarked that the testicles are not, as usually supposed, closely attached to the posterior abdominal wall, but are each inclosed in an extensive triangular peritoneal fold (the mesotestis of the German anatomists), and he had regarded this as an arrangement subservient to the easy passage of the testis to and through the inguinal ring. The Germans, in noticing this, point out the analogous peritoneal fold inclosing the ovary which afterwards forms the broad ligament of the uterus. Thus as the ovary and testis both alike descend, the one to the pelvis, and the other to the inguinal canal, the peritoneum sinks as it were into the inguinal canal, traversed by and inclosing in both instances a fibrous cord; in the male the gubernaculum testis, in the female the round ligament.

But a not less interesting and important application of the principles and facts contained in the examination of this law, is that which relates to the abnormal arrangements of parts, proving clearly that these monstrous formations, agreeing as they do precisely with some early normal condition of the parts, are to be referred to the interruption of development at that early period, and the permanent retention of the characters which the organs, then normal, possessed.

For example, in the simple membranous saccular and canal form presented by the brain and spinal cord, which at first are but nervous membranes filled by a clear fluid, we can see how by the interruption of development in any part, congenital hydrocephalus, or hydro-rachitis, may be produced; and as the median division of the cerebrum is the result of a change

from its simple saccular form, we find here an explanation of the cases observed by Sir A. Carlisle and others, where this median fissure was absent.

In the thorax we find, in the vertical position of the heart, up to the fourth month, the origin of the cases where this condition remains permanent, as in a patient examined at St. Bartholomew's Hospital by Mr. Stanley himself. But the malformations of the heart present the most numerous and striking illustrations. An instance was shown where the development of the heart was arrested at a very early period, when it is still a simple pouch without separated cavities, in which life had been prolonged to the tenth year, and where a few thin cords passing across the single cavity were all the traces of septa that were found. In Meckel's Anatomy cases may be met with of malformations corresponding with each distinct stage of the heart's development.

In the abdomen, the progressive development of its walls from the spine forwards, in an arch from each side, explains the production of the not unfrequent median abdominal fissures, corresponding to those of the lip and palate. The rarity of fissure of the lower lip is the consequence of its being formed in two nuclei, which rapidly unite; while in the upper there are four, of which the two middle uniting very easily explains why median fissure is there also very rare, in comparison with the lateral.

In the proof which recent investigations have afforded, of the existence of the allantois in all mammalia and in man, and of the development of its duct into the urachus and urinary bladder, while the sac itself shrivels up and disappears, we see the explanation of the cases where the urinary bladder has an opening through the umbilicus, as in a case recently seen at St. Bartholomew's Hospital. This malformation is evidently the result of the early condition of the parts becoming permanent, and the urachus remaining open in its whole length.

Tiedemann has shown, that in the early embryo the portal vein is, before the formation of the liver, continued into the inferior cava. Hence those cases described by Mr. Abernethy and others, where the portal vein, never having acquired a connexion with the liver, has passed entirely into the cava, throwing doubts on the mode of secretion of bile.

Mr. Stanley concluded this lecture by some remarks on the prospect that, by the union of detached facts into general principles, the progress of medical science might keep pace with, and be as secure as, that of other sciences in which this plan

had been pursued; and noticing the remarks often made, of the rarity of the medical profession leading to the attainment of the usual objects of human ambition, be urged that though these might not be the rewards which it received, it was yet highly exalted in leading its followers to so useful a relation to their fellow men, and so clear a view of the finest works of their God.

NOTES ON INDIAN MEDICINE.

BY D. W. NASH, M.R.C.S.L.

Ague—Malaria—Causes of Relapse—Various Remedies—Bleeding.

A GREAT number of young men go out to India every year, as assistant-surgeons in the Honourable Company's service, and having passed through the various grades of their military or civil departments of that service, at length return to England, either driven home by sickness or wishing to taste the pleasures of Europe during a three years' furlough, or, having served their allotted time, retire to enjoy the *otium cum dignitate* of their not very immoderate pension. All these must necessarily have witnessed a great number of facts, and made many observations in their professional capacity, which might no doubt prove interesting to their brethren in this country; and though all are not endowed with a very observant spirit, or may not have made the best use of their time, still every one must have something to communicate, which, though of no seeming importance to himself, may yet be acceptable to others.

That such observations are not disregarded, the numerous quotations into the periodicals of this country, from their Indian depository, "The Indian Medical Journal," sufficiently prove; and with this view I have put together a few recollections which occur as having struck me at the time, though I then took less note of them than I now wish I had done.

A medical officer, attached to a native regiment in India, has no very great number of diseases to contend with among the natives themselves: one of the most common which he meets with among both European and native, and to which all castes are equally liable,

both Hindoo and Mussulman, Brahmin and Dhēr, is intermittent fever.

The most usual type is, as in this country, the tertian; the quotidian the next in frequency, the quartan rare, and the irregular types of the disease I have never met with.

The causes are nearly the same: malaria, sudden changes of temperature, exposure to cold and moisture, and, what is peculiar to a tropical climate, exposure to intense heat;—fatigue, combined with this last, is a very common cause, in India, among Europeans. I have known an European officer have a severe attack of intermittent fever after riding at speed a distance of fourteen miles in the forenoon sun—*i. e.* after nine o'clock A.M. in the month of March; when the rays of the sun possess a power altogether inconceivable by the inhabitants of this temperate clime, though trifling compared with their intensity in the month of May. A slight change of temperature, accompanied by moisture, is enough to induce ague in some individuals: I had a most severe attack from opening the doors of my palanquin while crossing the meidan at Calcutta during a shower of rain.

Malaria is the most frequent cause, and this shows itself as capricious here as elsewhere. In the camp in which I did duty, a small brook, or nullah, surrounded the lines on three sides. Two infantry regiments and a company of artillery occupied one bank, and a regiment of cavalry the opposite one. As, in the rainy season, this brook was apt to overflow its banks and inundate the lines, a cut had been made to convey away its superfluous water. This cut, which, except in the rainy season, was a dry ditch, was then partially filled with water, and ran along the back of the lines of one of the infantry regiments. This regiment was therefore in the situation most exposed to the effects of any malaria arising from the ditch, and would naturally have been expected to furnish the greatest number of cases of ague; but the contrary was the case: it has frequently happened that only eight or nine men of this regiment have been in hospital, from various causes, while at the same time thirty or forty men of the regiment, farthest removed from the source of the malaria, have been in hospital with intermittent fever. The cause of this difference may perhaps be traced to a difference in both

the physique and morale of these two corps. One was composed of much finer and younger men than the other, and generally of a better caste. One contained a great proportion of young men from the Upper Provinces, the other had a great number of Mahratta Dhērs. The number of courts-martial for petty offences was far greater in one than in the other. From unavoidable circumstances the discipline of one corps is much more lax and less efficiently preserved than in the other, and the characters of the European officers in command materially differ. All these circumstances have a great influence on the sanitary as well as military state of a regiment.

The great difference in regard to malaria which a very slight change of situation makes, is well known. The right wing of the corps to which I was attached was ordered in pursuit of some predatory bands who were laying the country under contribution. We made forced marches of thirty and forty miles a day for five days: it was in the cold season, and though the men were fatigued, and complained much of sore feet, my hospital doolies remained empty; and we at length encamped on a rising ground on the right bank of a small river. Here we remained a month, during which period two or three trivial cases of sickness occurred. At the end of this time we were relieved by a wing of another regiment, which marched slowly and leisurely. On arriving, they pitched their tents in a level piece of ground on the left bank of the stream, not more than one hundred yards from our camp; and yet, though we had not had a man on the sick report from intermittent fever during the period of our stay, they had immediately a very large number of cases in hospital. Had they taken up our ground, they would no doubt have escaped as we did.

It is curious to observe, when once intermittent fever has taken hold of the system, what a variety of circumstances serve to induce its return. After the first attack has been got over, and the patient is called well, no paroxysm having appeared for several days, the merest trifle will often cause its re-appearance. Particular kinds of food and drink disagree with the stomach, and invariably cause its return in some individuals. I knew a gentleman in

whom it was sure to be brought on by eating salt fish roe, a condiment much eaten with rice in India, though he could attack other dishes with the greatest impunity. In others, mental emotion exerts a peculiar influence on the disease. I knew an officer in whom for several months sexual intercourse was regularly followed by an attack of ague.

An officer under my care was for many months liable to an attack of ague from the slightest exposure to the sun: a morning ride, prolonged after the usual period when prudence dictates the propriety of getting under cover, was sure to bring on unpleasant consequences; and yet, if the mind were fully and eagerly occupied, a much longer exposure could be borne without injury: thus, for instance, though he could not without suffering remain after eight o'clock A.M. in the sun on the parade-ground or race-course, in taking a common ride, yet he could bear the fatigue and exposure to the sun of a whole day's boar-hunting.

Another case was that of a young European officer, of a bold and ardent disposition, a daring sportsman even for India, a crack rider and spearsman, whose fine athletic frame and ruddy countenance bore witness to the truth of his assertion, that he had never known a day's illness since he left his native Devonshire. His spirits were remarkable,—his constant lively disposition and good temper made him a general favourite. He thought himself able to defy disease, and had indeed been the only one to escape out of a large party of Europeans who, with their servants, were all, with that one exception, attacked by fever after sleeping in the hills while on a hunting excursion. But his time was to come. One day very shortly after, at a boar-hunt, while sitting carelessly in the saddle, a boar unexpectedly dashed out of the jungle. Instinctively sticking his spurs into his steed, without observing that the hillock on which he stood had been scarped perpendicularly just in front of him, both horse and rider came headlong down together. The rider's knee was severely injured, and he was taken into camp in a palanquin. He was confined to his bed for some weeks; it was in the midst of the hunting season, and the reports of his brother sportsmen on their brilliant success in the field irritated his

mind, already fretful by confinement. He was attacked with fever similar in its character to that from which his companions in the hills had suffered; this took on the intermittent type, and remained by him for months, and he became to all intents and purposes a changed being both in body and in mind.

Residents in India, both European and native, are impressed with a belief that the moon has a great deal to do with the return of intermittent fever. When I first joined a regiment, the commandant asked me if I entertained this opinion; but I gave no credence to it. A little experience, however, shewed me that it was not altogether without foundation.

I have in a great many instances observed that an ague would commence for instance on the fourth day of the month; two or three attacks might follow every other day, which would be controlled by quinine, &c., and the patient would appear recovered; but an attack of intermittent fever would again be experienced in about twenty-eight days from the time of its first commencement. After witnessing this fact two or three times, I got into the habit of giving quinine to such patients, a day or two previous to the period at which the fever was expected to come on, and always had reason to congratulate myself on the result. A young gentleman, now in this country, son of an officer in the Madras Army, was a remarkable instance of this; so much so, that his parents never failed to remind me that the day was at hand for the monthly attack, and to request a supply of quinine mixture. This child had reddish hair, light eyes, a fair thin skin, and all the signs of the lymphatic temperament, forming a sufficient contrast to the dark-skinned, black-haired, and black-eyed natives, in whom the same periodical tendency to the attack was to be discovered.

For many months I myself looked forward to a fit of ague every lunar month with the greatest certainty. Quinine sometimes kept it off, always diminished its violence; but if the medicine were neglected, the disease never failed to appear. I have seen this sort of thing so often, that I have no doubt but nosologists might very properly

distinguish this as a distinct type. The exact period of twenty-eight days is not always adhered to; circumstances may accelerate or retard the attack for a day or two, but in most cases the coincidence is remarkable.

With regard to the treatment of intermittent fever, it is in India, as in this country, variable in the degree of its intermission to the controlling power of medicine. It can in general be checked after a few days, by the exhibition of full doses of quinine; but the predisposition to the disease remains; and this predisposition to intermittent fever, the liability to a fit of ague from very trifling causes, is one of the most obstinate and difficult states of the system to control I have ever met with. It is, indeed, seldom to be eradicated but by a change of air and scene, and by the strictest attention to the general state of the health. In every native regiment there are a certain set of men with whose countenances the medical officer soon becomes familiar; they are no skulkers nor malingerers, but brave men and good soldiers. A native hospital is no palace, and the men have nothing to gain by coming into it, provided the hospital discipline is kept up as it ought to be. But these men are particularly subject to attacks of intermittent fever; if they are on guard at night, the next morning they make their appearance at the hospital; if there is a morning parade while the ground is yet saturated with rain, the regiment is no sooner dismissed than these men are brought in, and in reply to the usual question, the answer is invariably, "*Tup aya, sahib*" (the fever is come, sir). A purgative dose and a quinine mixture soon effect a temporary cure; but the patients are sure to return at various intervals, to pass through the same course of treatment.

In India quinine is not always to be had in great abundance, and then bark, arsenic, and some native remedies, are called into requisition.

Arsenic is a remedy of which the native doctors are very fond; they employ it in a variety of complaints, in ague, skin diseases, and give it to horses to bring them into high condition, and to give them sleek fine coats. They also use it in the treatment of glanders in horses. It succeeds very well in in-

termittent fever, but is an unmanageable remedy. I once treated fifteen cases of ague at the same time with small doses of Fowler's solution; in three of the individuals it produced very unpleasant symptoms of gastric irritation. They all got rid of their ague, though after a much longer period than if they had taken quinine.

The leaves and powdered bark of the Neem tree, *Melia Azedarachta* (Lindle), is a very favourite native medicine. An infusion of the leaves is tonic and astringent, and, as well as the powdered bark, a very useful substitute for cinchona where this latter cannot be had. A decoction of the leaves is used by the native horsekeepers to bathe the legs of horses when they become swollen from hard work, or galloping over a bad country. Talking of horses, I may remark that the leaves and young shoots of the bamboo are given, and with great benefit, to horses who have a cough; and as the practices of the natives of India are the result of long experience handed down from generation to generation, many of them are by no means despicable.

The Mudar plant, *Calotropis gigantea*, a kind of *Asclepias* (*Asclepias procera*, Willd.), is one of the most powerful remedies in the native materia medica. The powdered root is given by the native doctors in intermittent fever, and also in cutaneous affections, in elephantiasis, and intestinal worms. The milk is very acrid, and the leaves are used as blisters in cases of enlarged spleen. It has been used in some cutaneous disorders with great success by European practitioners. I employed it successfully in one or two cases of intermittent fever, but it requires to be administered very cautiously.

Bleeding in the cold stage of ague I tried twice, soon after my first joining a native regiment, but was speedily induced to give up the use of the lancet, almost entirely, among native troops. A surgeon of a sepoy corps may keep a set of lancets for the benefit of his brother officers, and the European sergeants or conductors who may be under his care, but he will very rarely need to dull their edge against a native skin. A Moosalmaun can sometimes bear bleeding, a Hindoo hardly ever: these latter living on the smallest possible amount

of food—if Bengalees on rice, if Northern men on thin cakes made of an inferior kind of flour called *jowarree*, softened with a very little *ghee*—cannot bear the loss of blood; and nothing can be more striking than the difference in the *convalescent lists* of two regiments, in which one doctor is free in the use of the lancet, and the other almost abjures its employment. The case is far different with Europeans; with them there must in general be no sparing, and above all, no delay, in the abstraction of blood in acute cases. Even in Europeans, however, bleeding in the cold stage of ague is not, as far as my experience goes, an admissible practice. The late Dr. Twining, of Calcutta, a man remarkable for his accuracy of diagnosis and skilful treatment of disease, tried the experiment pretty extensively among the Europeans in the General Hospital at Calcutta, but I did not think the benefits derived from the practice sufficient to cause its adoption. The disease is perfectly under control by other means, and the loss of blood only diminishes the general powers of the constitution at the very time when they are required to bear up against the returning tendency of the complaint.

When I first went to India, I was ordered to do duty with one of His Majesty's regiments of foot, the colonel of which informed me that he only allowed two kinds of men in his regiment—the sick and the well. And this is not a bad practical remark; nothing tells more against the practice of an hospital than a large number of so-called convalescents; and though this is often unavoidable, especially among European soldiery, and under unfavourable circumstances, there can be little doubt that it ought not to occur among natives, except as before, under particular and unusually adverse circumstances: where it does happen in sepoy regiments located in tolerably healthy cantonments, it may very often be attributed to a too free use of the lancet, and a style of practice altogether too energetic for at least the Hindoo portion of the community.

Cheltenham, May 25, 1837.

[We shall be most happy to hear from Mr. Nash again, and to have the notes to which he alludes.—ED. GAZ.]

ON THE
ACOUSTIC PRINCIPLE OF THE
STETHOSCOPE.

To the Editor of the Medical Gazette.

SIR,

HAVING been the first to attempt to render the art of auscultation intelligible and rational, by systematically referring its phenomena to the laws of acoustics, I have been much gratified in finding from time to time that my views have been generally adopted, and in some instances extended by subsequent writers; and although in this, as in every other case where science is applied to art, errors have arisen, especially among those ill-instructed in the science or inexperienced in the art, yet I have received the flattering testimony of many distinguished physicians, both at home and abroad, that considerable success has followed my humble endeavours to increase the utility and to facilitate the employment of the means of diagnosis discovered by Laennec,—means now more generally appreciated, and “the introduction of which (as says my friend Dr. Stokes, in his late excellent work) is one of the greatest boons ever conferred by the genius of man on the world*.”

Feeling, therefore, to a certain degree implicated in the success of the application of natural philosophy to auscultation, I am naturally jealous of the attempts of those who, labouring in the same field, evince an imperfect knowledge of the science, or a want of experience in the art. To notice every instance of this kind with which our medical journals teem, would be a useless as well as a troublesome task: error, when unsupported by authority, will soon fall of itself. But some observations published in your last number, by Dr. Budd, evincing considerable ingenuity, and receiving, as they apparently do, a stamp of authority from having been read before the College of Physicians, occasion me to send you the following strictures upon them.

With many of Dr. Budd's remarks I most fully agree; and my assent to these will not appear extraordinary, when I assert, that the substance of

them, and in some instances almost their very words, are the same as certain passages of my writings which have been before the public several years. In proof of this assertion, I would ask your readers to compare with the following extracts Dr. Budd's observations on the construction of the stethoscope (see p. 299 and 300 of the last number), which appear to be put forward as original.

“The first instrument used by Laennec was formed of three quires of paper, compactly rolled into a cylinder, and kept in that state by means of paste. He afterwards tried various other materials, and found a cylinder of wood, with certain modifications, answer better than any other. He found denser bodies, such as glass and metal, less effectual; and a cylinder of gold-beater's skin, inflated with air, proved inferior to all the others. It will be found that these facts are in perfect accordance with principles which we can only glance at here; and that the superiority of bodies of moderate density, such as light firm wood, although opposed by what Laennec considered to be an axiom in physics, is really an acoustic law, which has never, as far as we know, been accurately exposed.

“The power of bodies to conduct sounds varies according to the density of the medium in which the sound is generated,—those bodies being the best conductors which correspond in density with the body communicating the sound. Thus the sounds produced by the vibrations of air are best conveyed by air, and those of solids by a rigid solid of similar density. On the other hand, air receives with difficulty the sonorous vibrations of very dense bodies; and the latter in great measure intercept the sounds of air; but rigid bodies of intermediate density will greatly facilitate the transmission of sound between these dissimilar media. Two examples will suffice to illustrate this principle. The common pitch-bar or tuning-fork, when struck, yields very little sound as long as it is held between the fingers, or placed in contact with metal only; but as soon as it touches a table, or especially a sounding board, its sound becomes distinct and clear*.

* On the Diagnosis and Treatment of Diseases of the Chest. Dublin, 1837. P. 40.

* “Many other illustrations might be adduced; and we believe that the long-sought explanation of the principle of sounding boards of musical instruments is to be found in the same law.”

Again, a metal or even a glass partition between two rooms much more effectually prevents the transmission of sound from one to the other than a partition of wood even of greater thickness*."

Similar views are given in the first edition of my "Rational Exposition of Physical Signs," &c. published more than nine years ago, and are repeated in the second and third editions. It is unnecessary to detail them at length, but the following extract will serve to shew, that I then fully recognised the law that has just been noticed by Dr. Budd.

"A sound will, therefore, *cæteris paribus*, be best conducted by those bodies which approach in degree and strength of molecular elasticity the body in which that sound is generated. Thus a sound produced in air will be best propagated by air†," &c.

"The sounds heard by auscultation are several in nature and in origin. Those of the voice and respiration are produced in air; that is, air is the vibrating medium. The sounds accompanying the motions of the heart, on the other hand, originate in a solid or liquid. This circumstance suggests the expediency of varying the conductor, according to the principle formerly pointed out, that a sound is most effectually transmitted by bodies of the same density as that in which it is produced. Again, some sounds, as that of respiration, are diffused and weak, and by concentration may be made more distinctly audible; while others, as those of the voice, are produced in a circumscribed spot, and are loud enough in themselves. Now we shall find that all these differences may be met by a little modification of the same instrument. First let us take a solid cylinder, which shall be excellent in conducting power, and particularly of density approaching to that of the contents of the chest, from which originate the sounds to be conducted‡," &c.

In a paper on the "Production and Propagation of Sound," which I read before the section of Mathematics and General Physics of the British Association, in September 1834, and published in the London and Edinburgh

Philosophical Journal of Science, for January 1835, there will be found a further development of this law. I will introduce here only one extract.

"The best mode of overcoming the difficulty of the transfer of vibrations from one medium to another, is an interesting point, inasmuch as it includes the principle of sounding boards of musical instruments. We have already noticed that thinning a sonorous solid increases the sphere of its vibrations, and therefore their power of affecting the air; and provided that attention be paid to the direction of the vibrations, a similar effect is obtained by connecting the sonorous solid, a tuning-fork for instance, with an extended surface of thin metal of the same elasticity. Such a metallic sounding board greatly increases the sound, and to the ear applied on it does so as much as a wooden one; but it is greatly inferior to this in extent of excursive vibrations, and consequently in the volume of sound which it sends through the air; besides which, it is capable of producing sounds of its own, that injure the purity of the original note. The superior power of wood in this respect, as the medium of transfer, will now be sufficiently clear. According to the experiments of Chladni, fine-fibred fir wood conducts sound along its fibres with nearly the same velocity as steel. Such great molecular elasticity enables it to receive the slightest or most rapid vibrations uniformly from a sonorous solid, whilst from its lightness, or small inertia, these become sufficiently excursive to take full effect on air; and no new or interfering sounds can be produced in the wood itself, because its want of uniform density across the grain would absorb or destroy any vibrations in a direction different from those of the sonorous bar or cord communicating with it. * * * * Examining the matter elementarily, we are led to point out *rigidity of longitudinal fibre*, by which the vibrations are equally and perfectly received from a sounding cord or bar, and *lightness of mass*, by which they are made excursive, and are freely transferred to the air, as the two most essential qualities of the materials of sounding boards.

"These conclusions are quite in accordance with the experience of musical instrument makers, and perhaps may be useful in making this experience more

* Cyclopædia of Practical Medicine, art. STETHOSCOPE, by Dr. Williams. Pub. Feb. 1834.

† Rational Expos. 1st edit. published in 1828; page 8.

‡ Ibid, page 52, et seq.

rational and certain. The same properties render light rigid wood a good material for *stethoscopes*, which are intended to convey sounds from various media to the ear."

It will be seen, therefore, that the principle on which the stethoscope as a solid conveys sounds, together with several practical deductions from it, was long since explained by me, more fully than by Dr. Budd, who has only made a few additional illustrations of the same principle. The same remark will apply to Dr. Budd's explanation of ægophony, which differs from mine, published years ago, only in being more vague. In the first edition of my Rational Exposition, I expressed my belief that the changed tone of the ægophonic voice depended "on the power of different conductors to modify vibrations in their passage through them," (p. 108); and in the last edition, after stating that ægophony is bronchophony, modified by the vibrations of a thin layer of liquid through which it passes, I further added that the tremulous or subsultory sound of the ægophonic voice is produced by successive modulations of the liquid, the result of an irregular transmission of the sonorous vibrations*."

Thus far Dr. Budd's views do not differ from mine; but as mine have been some years before the public, it is rather extraordinary that he has not adverted to them. I now come to a point where Dr. Budd is certainly original, and here, I think, I shall have little difficulty in proving that he is wrong.

Dr. Budd remarks (and every one who has used the stethoscope must have made the same remark), that if the stethoscope be not kept in complete contact with the surface of the chest at one end, and with the ear at the other, the sound of respiration cannot be heard. "Now," says he, "the vibrations communicated by the parietes of the chest to the air within the stethoscope, must, in this case, be nearly the same as if the stethoscope and chest were in actual contact; very little sound can be lost by diffusion through the interval that separates them, when this interval is very small. We may then infer, that, in these cases, no vibrations sensible to the ear are communicated from the chest to the air within the stethoscope, but that

they are communicated almost solely to the material of the instrument."

Dr. Budd, then, concludes that the stethoscope is solely a solid conductor of sound, and that the only use of the hollow at its pectoral end is to permit the vibrations of the wood to take place more freely. This conclusion arises from his overlooking a remarkable difference in the power of air to conduct in *close tubes* and in *open ones*, which I shall presently advert to; but I will first state a few out of many objections to the conclusions so arrived at.

If the stethoscope conducts sounds merely as a solid, the central perforation can be of no use; yet if in *any kind* of stethoscope we close this tube at either end with a cork, we vastly impair the power of the instrument to transmit the sound of the respiration and of the voice. Nay, according to Dr. Budd, these sounds, in immediate auscultation, being transmitted to the organ of hearing, not through the air in the external meatus, but through the cartilages, should be heard as well with the ear closed or stuffed with any dense matter!

If we perforate the sides of a stethoscope, so as to make it no longer a close tube, it will scarcely transmit the sound of respiration, however perfect be its solid contact with the chest and with the ear. Yet by such perforation we do not sensibly impair the power of the instrument as a solid conductor. Again, if we close the lateral perforation with the finger, the sound of respiration may be heard with the usual distinctness. Yet the soft finger on the aperture cannot materially improve the power of the instrument as a solid conductor.

Dr. Budd admits that the common ear-trumpet conveys to the tympanum the sonorous vibrations by the air within it: but his argument with regard to the stethoscope would apply equally to the common ear-trumpet; for if its ear-end be not brought into solid contact with the ear, its power will be, in proportion to the strength of the sounds, as much diminished as that of the stethoscope in Dr. Budd's second observation.

These objections are opposed to Dr. Budd's conclusion that the stethoscope conducts sounds merely by its solid material; and to support an opposite view, I have now to advert to a law in acoustics, which, although fully stated by most writers, especially Sir John

* Pathology and Diagnosis of Diseases of the Chest, 1835. p. 91.

Herschel, from whom he quotes so largely, he seems to have entirely overlooked.

The power of the open air to conduct sound is greatly impaired by the lateral divergence of the vibrations in every direction. Hence sounds heard through air become weakened by distance at a very rapid ratio. If this lateral divergence be prevented even on one side only, the conducting power of air is increased. Hence a person speaking along a wall, or the smooth surface of water, can be heard at a much greater distance than in an open space. But it is when this lateral divergence is wholly prevented in a close tube, that air attains its maximum of conducting power; and it then transmits sounds to a surprising extent. Thus M. Biot found that through the iron conduit pipes which supply Paris with water, the lowest whisper could be heard at a distance of 3120 feet. That it was the air, and not the solid material of these pipes that transmitted the sound, was proved in the further experiments of striking the metal at one end of the pipes, when two sounds were heard at the other end, one transmitted by the iron of the pipes, and another, $2\frac{1}{4}$ seconds later, conveyed by the air within them.

Now the stethoscope, when properly used for the respiration and the voice, is also a closed tube, in which all lateral divergence is prevented, and the air within it therefore forms an elastic conductor, which transmits from end to end the slightest vibrations; being, as I have before observed, the best conductor for sounds produced in air. But if there be the least opening to the exterior, whether it be by imperfect contact with the chest or with the ear, or by perforations in the sides of the instrument, there will be a divergence of the vibrations in and out of this opening, and the power of the air within the stethoscope to conduct sounds, will be in a proportionate degree destroyed. Thus it is when the stethoscope becomes tilted from a closing contact with the walls of the chest, instead of the respiratory sound, we hear the extraneous noises of the apartment, and the reverberations which these produce in the hollow of the instrument. A very small aperture is sufficient to derange the conducting power of a closed column of air, and closing it even by a soft material will in great measure restore the conducting

power. Hence in applying the stethoscope on an emaciated chest, a loose fold of linen or of cotton will be often enough to fill up the gaps at the intercostal depressions.

But I will not trespass longer on your pages in illustrating this view, which is the only one consistent with the phenomena of auscultation and the laws of acoustics. Those who wish to see the subject further explained, and its theory applied to practice, may refer to my writings before quoted; and I will now merely add a summary of the principles of the construction of the stethoscope, and of its adaptation to its several uses.

To convey the sounds originating in the denser contents of the chest, such as the heart, a cylinder of light but rigid wood, as free as possible from knots and inequalities, answers perfectly. To transmit the sound produced in the more aerial contents of the chest, this cylinder is perforated longitudinally, so as to contain a column of air, which being perfectly closed from external communication by the ear at one end, and the chest of the patient at the other, readily transmits the sound of the voice, or of the respiration, produced in the spot which the aperture covers. To concentrate the diffused sound of respiration, and to expedite the examination by making the stethoscope take in as large an extent of surface at a time as possible, the cylinder is hollowed at the pectoral end into a conical cavity, the apex of which terminates in the central canal; so that all vibrations communicated to the air in this cavity are concentrated into the canal and conveyed to the ear. To re-convert this into a simply perforated cylinder for examining small spots of the chest, a perforated plug or stopper is adapted, of size and form exactly filling the conical excavation. The instrument may then be made lighter by reducing the chief length of the cylinder to a diameter of about half an inch, as stethoscopes are now usually made.

I must again refer the reader as before, on using the stethoscope with and without the stopper in exploring different sounds; also a subject on which Dr. Budd and I differ, but which time will not now permit me to discuss. It is not generally understood, and as a knowledge of it is quite necessary in some difficult cases of diagnosis, I may

perhaps address you on it at some other time.—I am, sir,

Your obedient servant,

CHARLES J. B. WILLIAMS.

Half-Moon Street, Piccadilly,
May 30, 1837.

CASE OF
GLANDERS IN THE HUMAN
SUBJECT.

CORPORAL John Wells, aged thirty-eight, a tall, well-formed, florid-complexioned, healthy-looking man, originally a labourer, and had been upwards of nineteen years in the corps; during the whole of which lengthened period, he "was never once in the doctor's list," always enjoying the best possible health, until the 16th of April last, when he was suddenly awakened from an unrefreshing sleep by rigors, headache, and irritability of stomach, all of which continued unabated when admitted into hospital next morning; complaining, in addition, of severe continued pains, and stiffness in all his large joints, which became excessively aggravated on the slightest motion. I am just informed, "these are the constant precursors when a combination of severe acute glanders and farcy first appears in the horse; and in all cases thus ushered in, death speedily and inevitably follows." He laboured, likewise, under great depression of spirits, restlessness, and a general disturbance of all his functions, which he could not possibly refer to any particular cause. But on subsequent inquiry it appeared, that he had sole charge of a glandered horse for some time previous, which had been destroyed on the very evening of his attack; and that he had skinned him, and exerted himself a good deal in cutting up and burying the carcass. But these circumstances did not then create the least suspicion; and his complaint was considered a very severe case of acute rheumatism, and was treated as such. However, on the morning of the 19th, two days after admission, finding that the severity of his pains increased under the most active means, and that his constitution was no longer able to bear a continuance of them, Dr. Home and myself became truly alarmed, even at this early stage of the disease, in observing its unconquerable violence and

novelty of appearance, forming thereon, in consequence, a very unfavourable prognostic.

From this period, the constant and general pain, night and day, became excessive and violent to a degree; but particularly over the left shoulder, which, on examination, shewed the scapula slightly tumefied, although not inflamed; but being above the temperature of health, leeches were consequently applied over its entire surface, and it bled profusely for some hours after, without affording the least relief: but it shortly after became hard, ecchymosed, and insensible to the touch.

The severity of his sufferings continued unabated; and on the morning of the 24th, seven days after admission, the tumor over the scapula had assumed a dark livid colour, and attained a considerable size, resembling in a strong degree the shoulder of a man recently and severely punished.

Similar tumefactions, but more circumscribed, were now observed on the legs, arms, and sacrum, and one of considerable magnitude over the left temple, which had already distorted the entire face. The eye being apparently diminished and humoury, the lids tumefied, the inferior one with a prominent doubling in it, the conjunctiva pale and infiltrated, as well as the membrana nictitans and caruncula lachrymalis. The skin and cellular membrane of this tumor, together with those on the extremities, became like that on the scapula, hard, insensible to the touch, and of a dark chocolate colour; convincing us that the application of leeches to the original one was not instrumental in the production of those appearances, as we had then supposed. The right nostril was likewise contracted, and gummed with an inspissated discharge; and he complained of constriction of the throat, with difficulty in swallowing cold liquors, but not those previously warmed; and on examination, the posterior fauces were found much inflamed, and nearly of the same purple hue as the tumours on the surface; the whole of which observed regular gradations from their commencement: first shewing themselves, not simultaneously, but in succession, by a slight discoloured puffiness of the skin and cellular membrane; generally nearest the bone; they were next observed after a lapse of twelve or fifteen hours, diffused over their entire

surface with a deep vermilion blush, which then changed rapidly into a dark brown; the integuments becoming thick and callous, with fissures or or superficial cracks, from which exuded a thin, acrid, corrosive sanies. These formed their characteristic appearances without any very material deviation, or producing the slightest mitigation of suffering throughout, which had now become so excruciating as to baffle every effort of art to procure either sleep or rest; not even whilst in the warm bath has he had a moment's respite from pain.

His thirst from the beginning had been great, with a foul parched tongue; his pulse varying from 88 to 96, and full, but easily compressed; and the blood abstracted at the commencement of this disease appeared much attenuated, buffed, and deprived of the coagulating principle. His bowels (constantly attended to) were easily kept free, and his excretions, both urinary and alvine, were always natural in every respect, shewing the alimentary canal perfectly healthy.

In this state he advanced into the morning of the 28th, his eleventh day under treatment; when several distinct, warty pustules, considerably raised above the surface of the skin, were first observed on different parts of the body, very much resembling yaws, but particularly numerous and large over the right side of the neck and shoulders, and on the inside of the arms and thighs.

Several of the tumors already described, but particularly the one over the shoulders, appeared now to be running rapidly into gangrene, which had not been in the slightest degree impeded by the copious exhibition of tonics and antiseptics; and the powers of nature being at length quite exhausted, his pulse scarcely perceptible, his countenance frightfully haggard and livid, his entire surface bathed in a cold clammy sweat, and of a pale leaden hue, we expected every moment to be his last. He, however, held out in a partial state of somnolency and a low muttering delirium until the morning of the 30th, when death happily relieved him from his misery: having been twelve clear days under treatment in hospital.

Post-mortem examination.—Eighteen hours after death the body was examined by Assistant-Surgeon Dr. Home and

myself, and presented the following appearances:—

The entire surface exhibited a most unsightly deformity, with extreme emaciation, being nearly covered by black gangrenous tumors of various sizes, each surrounded by numerous small vesications about the size of peas which, with those over the neck, shoulder, arms, and thighs, at first sight resembled the yaw pustule, but on cutting into them they were found to be merely elevations of the cuticle filled with a dark, violet-coloured, inspissated lymph: and a strong suspicion having been recently entertained, that the causes and effects of this disease had their origin in glanders, it was considered essential in the first instance to have the absorbents of each arm minutely examined to their termination in the axillary glands, in order fully to ascertain whether it might have been communicated through their medium to the system generally. These vessels, however, as well as the glands, were found in their natural state; nor was there the slightest appearance of either absorbent, glandular, or cutaneous inflammation, nor of any recent cicatrices, chopped or scratched fingers, or, in short, the slightest breach of integument or abrasion of skin, by which absorption of morbid matter could have been facilitated into the system, any where discoverable.

The head was next examined, and on removing the scalp in the usual manner from the cranium, and thereby dividing the tumor already specified, we observed, immediately over the left superciliary ridge, a cluster of tuberculated bodies of various sizes, imbedded in a lamina of the cellular tissue exterior to the pericranium.

At this stage of the dissection, the presence of our highly-talented and much-esteemed veterinary surgeon, Mr. Woodman, was solicited, and on his arrival he unhesitatingly recognized a strong resemblance between these and those usually found in the nasal linings of glandered horses after death.

The skull-cap was now removed, and discovered the brain much more pale and soft than ordinary, with rather a larger proportion of fluid in the ventricles; but on removing with the saw that portion of the cranium situated between the orbits, the Schneiderian membrane lining the frontal sinuses and passages into the interior æthmoid cells

appeared throughout not only pale, thickened, and infiltrated, but in the right frontal sinus was found another cluster of what Mr. Woodman considered to be "well-defined ulcerated tubercles, and exactly similar in appearance to what we have in the membrane lining the frontal sinuses and other cavities of the head in acute glanders in the horse.

The posterior fauces were next examined, and found highly inflamed, of a dark purple colour, and on the surface of the right tonsil there were four or five ulcerated patches of a similar character with preceding, but neither the thoracic nor abdominal viscera presented any vestige of this formidable disease, all of which appeared perfectly healthy, except that the tissues of the heart might be considered rather more pale and flabby than usual.

We now resumed the examination of the trunk, first inspecting a large, hard, cancer-like tumor, spreading backward over the scapular region, and downwards by the serratus and latissimus dorsi muscles, the most prominent part having cracked or separated previous to death, from which exuded a thin, highly foetid, ichorous sanies; and on cutting through this disorganized mass down to the bone, the muscles appeared perfectly decomposed, and of a dark liver colour, (exhaling a peculiarly foetid odour, similar to cariosity,) with points of purulent matter, as it were, infiltrated every where through its entire substance, resembling much a hepatized or tuberculated lung; and on removing the whole of this diseased mass from the bone, the scapula was observed nearly covered by a cluster of grey circular tubercles, the whole composed of fine cellular tissue, enveloped in small cysts, and firmly attached to the periosteum, differing only in this respect from those found in the pericardium.

The other tumors on the sacrum and extremities were all separately examined, and exhibited precisely the same character and appearance with those already described, each covering a crop of tubercles adhering to the periosteum underneath, and proportionate in size and consistency to the extent and duration of the tumor.

The muscles generally, even those the most remote from the tumors, appeared blanched and flabby, the fibres softened, and the cellular membrane in-

filtrated with a yellow serosity; in short, the entire frame was here more or less contaminated in a very uncommon degree.—*Mr. Brown, in Dublin Journal.*

MEDICAL GAZETTE.

Saturday, June 3, 1837.

"Licet omnibus, licet etiam mihi, dignitatem
Artis Medicæ tueri; potestas modo veniendi in
publicum sit, dicendi periculum non recuso."

CICERO.

THE PORK-WATER SYSTEM.

SOME twelve or fifteen months ago, when the joint-stock delirium was revived in its most exquisite form, all the sane and sober were astonished that the dear lessons of 1825 had been so soon forgotten. It seems, they cried, that the burnt child does *not* dread the fire, for while he who scorched his fingers so severely in the Haytian Carpet speculation, now takes shares of the Beet Root Company, another, who ten years ago disposed of all, and more than all, his superfluous cash to the Brass-Plate Association, has now devoted himself, body and soul, to the Scilly rail-road scheme!

But the objectors did not allow sufficient force to the lapse of ten or twelve years; such an interval obliterates the remembrance of a man's own losses; what will it not effect upon his fainter recollections of the injuries done to others? This seems to us the most natural way of accounting for the fact that the mania for starving (others)—the asceticism by proxy, which afflicted certain persons not very many years ago, has now returned, and rages with a great exacerbation in our union work-houses. The history of the old fit is as follows. In the year 1822, some of the experimentalists fancied that the diet of the prisoners in the Penitentiary at Millbank was too copious; they thought

that the penitents were suffering from plethora, and being apprehensive, we suppose, of the gout breaking out among those luxurious recluses, contrary to the advice of their very intelligent medical officer, Mr. Copland Hutchison, they substituted the following dietary for the one previously in use—and a scurvy dietary it was, in every sense of the word :

“In the morning.—Three-quarters of a pound of bread, and one pint of gruel for the males, and nine ounces of bread, and three-quarters of a pint of gruel, for the females.

At noon.—Three-quarters of a pound of bread, and one pint of soup for the males, and nine ounces of bread and three-quarters of a pint of soup for the females.

In the evening.—One pint of soup for the males, and three-quarters of a pint for the females.

The soup to be made with ox heads, in lieu of other meat, in the proportion of one ox head for about 100 male prisoners, and the same for about 120 female prisoners; and to be thickened with vegetables and peas, or barley alternately, either weekly or daily, as may be found most convenient.”

The natural consequences soon followed.

“During the autumn of 1822 the health of the prisoners began visibly to decline. They became pale, languid, thin, and feeble. Those employed in tasks requiring much bodily exertion were unequal to the same quantity of work as formerly. Those at the mill could grind less corn; those at the pump could raise less water. From time to time several of the laundry-women fainted under their work; and the business of the laundry could only be carried on by continually changing the hands engaged in it. Such was the general state of the prisoners throughout the winter*.”

The daily rations for the inferior officers and servants were, one pound of bread, three-quarters of a pound of

dressed meat, exclusive of bone (or one pound undressed, with bone), and one pound of sound potatoes, or an equivalent in other vegetables, or in rice. Here, too, the natural consequences followed. While the starved prisoners were attacked with the scurvy, the fed officers, servants, and their families, residing within the walls of the prison, and amounting to 106 individuals, were universally exempt from it; and of 24 prisoners employed in the kitchen, only three were affected, and these had been promoted to the kitchen within four days. Drs. Latham and Roget were now called in (February 28th, 1823). They found that whether a patient had the scorbutic spots alone, or the diarrhoea or dysentery alone, or both the spots and flux, he had the same constitutional derangement, denoted by a sallow countenance, an impaired digestion, diminished muscular strength, a feeble circulation; different degrees of nervous affection, such as tremors, cramps, or spasms, and various degrees of nervous despondency. Post-mortem examination, too, showed that the dysentery was scorbutic, for there were ecchymoses in the bowels, or, in other words, spots of the same kind as those which on the skin constitute scurvy. Drs. Latham and Roget began by an immediate reformation of the dietary; instead of the imaginary soup for dinner, they gave a daily allowance of four ounces of meat, and eight ounces of meal, for each prisoner; white bread instead of brown; and three oranges, one at each meal. This increase was but temporary; but in their report, dated April 5th, 1823, they recommend a permanent amelioration of the diet, as follows:—

“1st. That half-a-pound of flesh meat, without bone, be allowed to every prisoner, *once a week, on Sunday.*

“2d. That in addition, half-a-pound of flesh meat be allowed to every prisoner once a fortnight, on any day that the Committee may think proper.

* An Account of the Disease lately prevalent at the General Penitentiary. By P. M. LATHAM, M.D. London, 1825.

"3d. That white bread should always be given to the prisoners,—that is, bread made of the best wheat flour, and free from all impurities.

"4th. That the prisoners should have one meal each day entirely of solid food,—that is, if they have gruel for breakfast and gruel for supper, that their dinner should not be of soups or broth, but that of whatever vegetable or animal substances it consist, they should be given in a solid form *."

These judicious measures, however, as well as the medical treatment, came too late :

————— serò medicina paratur,
Cum mala per longas invaluere moras.

The disease, though checked for a short time, continued to spread ; even the classes originally exempt became infected, and ultimately no resource was left except emptying the Penitentiary. Of the prisoners, some were sent to an establishment in the Regent's Park, and others to the Hulks ; and in the course of 1824 all the surviving women were pardoned at the intercession of the physicians, as it was justly thought that one year spent amidst alarm and disease was equivalent to several of ordinary imprisonment.

It is strange that this melancholy lesson should so soon have been forgotten, and it is unfortunate that dietetics still occupy so small a portion of professional attention. If this branch of prophylactic medicine were studied with a zeal which bore any proportion to its importance, would it have been possible for any one to assert, as it was too truly asserted in the Parliamentary Inquiry of 1823, that medical men really do not know how much food is necessary for healthy sustenance ? Mr. Assistant-Commissioner Mott repeats the same accusation in the Second Annual Report of the Poor Law Commissioners ; and we have only to reply, that it is but too true, otherwise how could the gruel

and pork-water system have come into play ?

————— pudet hæc opprobria nobis
Et dici potuisse, et non potuisse refelli.

Mr. Mott proposes three several dietaries, all of a most eremitical cast, and calculated to allow the sufferers to rise from their repasts, according to the old medical rule—with a very excellent appetite. He says—

"I have been led to believe that the result shown in the following scale may be considered as a fair estimate of the proportions of food requisite to support human life in a sound and healthy state.

"1st. For persons of moderate health or constitution, but using little exercise or exertion : daily allowance of food, 12 to 18 ounces,—in nutritive matter equal to an average daily of 10 ounces.

"2d. For persons of good health, accustomed to moderate labour, as sailors and soldiers, on ordinary peace duty, or agricultural labourers or mechanics at their usual work : daily allowance of food, 18 to 24 ounces,—in nutritive matter equal to an average daily of 16 ounces.

"3d. For persons subject to hard labour or other violent exertion, in good bodily health : 24 to 30 ounces of food,—equal to 22 ounces of nutritive matter *."

We fear that Mr. Mott will think our common sailors Epicureans in the worst sense of the word—persons wholly given up to gluttonous delights—when he learns that even on ordinary peace duty, when they ought to confine themselves to his *secondly*, they go far beyond his *thirdly*. Every person serving on board his Majesty's ships has the following daily allowance :—

Bread . . .	one pound.
Cocoa . . .	one ounce.
Sugar . . .	one and half ounce.
Fresh meat . .	one pound.
Vegetables . .	half pound.
Tea	quarter of an ounce.

When fresh meat and vegetables are not

* Op. citat.

* Second Annual Report, p. 337.

issued, the gormandizers receive instead—three-quarters of a pound of salt beef, and three-quarters of a pound of flour, alternately with three-quarters of a pound of salt pork and half a pint of split peas. They have also at all times half a pint of oatmeal and half a pint of vinegar weekly,—to say nothing of a gallon of beer, or a pint of wine, or a quarter of a pint of spirits daily. These regulations bear date the 1st of July, 1824. Previously to this arrangement, when spirits were issued, the quantity was half a pint, which was certainly too much*. To make up for this diminution, the other allowances were increased, as well as the pay; and as these additions were constant, and the diminution took place only in the issue of spirits, not of wine or beer, the seamen were great gainers. These regulations put an end to what were called *banyan* days, on which meat was not served out.

If Mr. Mott is still in a convincing state, these regulations may help to shew him that he has been “led to believe” some very foolish things about diet. It is clear that the sailors’ dietary does not err on the side of superfluity; and in the opinion of a most competent judge, Sir Gilbert Blane, before the improved regulations the diet was much too scanty. When examined before the Committee appointed to inquire into the state of the Penitentiary, he was asked—

“In your observations upon the sea scurvy, do you attribute its prevalence in the navy, where you have seen it in existence, to the deficiency of nourishment generally?”

To which he answered—

“Yes, some say the salt diet; but I think it is the deficiency of diet.”

* Capt. Basil Hall, to whom we are indebted for these particulars, observes, that before the new regulations, the sailors seldom drew their whole allowance of bread, their appetites being blunted by the spirits; but they eat it all now.

When we consider that, from the hazardous modes of modern business, not a few of the middle classes are forced to seek an asylum in a London workhouse, and that even the lower orders in this town eat meat freely, we shall have no reason to doubt that the poor pittance of nourishment given above would induce scurvy in frames broken down by regret and disappointment. A long course of low diet, even when rendered necessary by acute disease, is ill borne by those who have been accustomed to more generous living. Of this we have a good instance in the account which Walter Scott has given of his sensations when using a vegetable diet for a dangerous intestinal hæmorrhage under which he laboured in his youth*.

Now let us turn to the system of diet established not by the erring committee of a penitentiary, but by perfect men—men, at least, who, if they make a blunder, never confess it—the Poor-Law Commissioners. In their second annual report (1836) they give us six dietaries, differing considerably from each other, but all perfect; and though varying according to the modes of living in different parts of England, yet “all of them have been proved to be sufficient in quantity, and perfectly unexceptionable as to the nature of the provisions specified in each.” The table at the top of next page presents us with a view of the first dietary.

Old people of sixty years of age and upwards may be allowed one ounce of tea, five ounces of butter, and seven ounces of sugar, per week, in lieu of gruel for breakfast, if deemed expedient to make this change.

Children under nine years of age to be dieted at discretion; above nine, to be allowed the same quantities as women.

* See Lockhart’s *Life of Walter Scott*, vol. i., page 48.

No. 1.—*Dietary for able-bodied Men and Women.*

	BREAKFAST.		DINNER.				SUPPER.		
	Bread.	Gruel.	Cooked Meat.	Potatoes.	Soup.	Suet or Rice Pudding.	Bread.	Cheese.	Broth.
<i>Sunday.</i>	oz.	Pints.	oz.	lb.	Pints.	oz.	oz.	oz.	Pints.
Men	6	1½	5	½	..	..	6	..	1½
Women..	5	1½	5	½	..	..	5	..	1½
<i>Monday.</i>									
Men	6	1½	..	..	1½	..	6	2	..
Women..	5	1½	..	..	1½	..	5	2	..
<i>Tuesday.</i>									
Men	6	1½	5	½	..	..	6	..	1½
Women..	5	1½	5	½	..	..	5	..	1½
<i>Wednesday.</i>									
Men	6	1½	..	..	1½	..	6	2	..
Women..	5	1½	..	..	1½	..	5	2	..
<i>Thursday.</i>									
Men	6	1½	5	½	..	..	6	..	1½
Women..	5	1½	5	½	..	..	5	..	1½
<i>Friday.</i>									
Men	6	1½	..	..	..	14	6	2	..
Women..	5	1½	..	..	..	12	5	2	..
<i>Saturday.</i>									
Men	6	1½	..	..	1½	..	6	2	..
Women..	5	1½	..	..	1½	..	5	2	..

Sick to be dieted as directed by the medical officer.

In No. 3, the dinner consists of nothing but bread and cheese four days in the week; the allowance being seven ounces of bread, and two ounces of cheese, for a man; and six ounces of bread, and an ounce and a half of cheese, for a woman! The cheese suppers, too, are less liberal than in No. 1, for an ounce and a half only is given instead of two ounces. What a sloppy and debilitating dietary is this No. 1! Gruel and broth, or soup, for ever, with a taste of bread twice a day, and enough meat to whet the appetite twice a week! Six ounces of bread! Six avoirdupois ounces are equal to 2625 grains; now a penny roll (we have just

tried the experiment) weighs, at this our present writing, exactly five Troy ounces, or 2400 grains; so that the breakfast and supper allowances of bread in No. 1 each exceed a penny roll by the magnificent surplus of 225 grains—that is to say, the men's allowances; for a woman's allowance, being only five ounces avoirdupois, does not come up to a penny roll. There is no allowance of bread for dinner, as of course a handsome slice will be saved for that meal out of the morning hunch of 2625 grains. A man's dinner consisting, according to No. 3, of seven ounces of bread and two ounces of cheese, will weigh 3937½ grains, and will therefore be equal to a penny roll and a half, and 337½ grains over.

As to the soup, Colonel A'Court is very pleasant on the subject. In the parliamentary inquiry now going on, he stated the other day that one of the "tender" surgeons is so delighted with the workhouse soup, that he always asks for a basin of it when he pays his visit. Those who have thoroughly digested our late article on the Competition among Medical Practitioners, might perhaps give too painful a reason for this rapture of the surgeon in question; but we rather wonder that the Assistant-Commissioner Colonel was not scandalized at the richness of the decoction.

At one workhouse, however, the authorities were revolted by the oversavouriness of the soup, and accordingly decreed a broth which we venture to say will not be forgotten for many a long year,—it was the too-celebrated PORK-WATER. Rather than swallow this nauseous mess, the unhappy paupers took plain cold water instead; and though Mr. Harrison, the chief instigator of the decoction, tells us that the boys, who used to turn up their noses at it, now "lick it in quite sweet," we trust that this abominable nuisance has ere this been abated. The grease or scum, too, at the top of the broth, was used by Harrison's persuasion instead of suet for the puddings. Faugh!

But enough of this for the present. We shall resume the subject when the parliamentary inquiry terminates; for the evidence delivered before the select Committee is the best commentary on the ex-parte statement of the Poor-law Commissioners.

DR. CHAMBERS, PHYSICIAN TO THE KING.

WE learn* that Dr. Chambers has been appointed Physician in Ordinary to the

King. It is but very lately that we had to announce the same gentleman's name on his becoming attached to the household of the Queen; and we believe it to be almost without precedent for this double honour to have been conferred on any one within so short a period; not, we may farther add, as the result of Court interest and solicitation, but in consequence of actual attendance—of having previously been, *de facto*, "Physician in Ordinary" to both their Majesties.

MEDICAL SERVICE IN INDIA.

WE beg to direct the attention of our younger readers to the account of the Medical Department in India, the first part of which we gave last week, and have continued in our present number. They will find in it some information which may be of much importance to any who contemplate going to that part of the world.

DR. COPLAND'S ANSWER TO DR. WEATHERHEAD.

To the Editor of the Medical Gazette.

SIR,

YOUR latest number contains a very intemperate communication from Dr. Hume Weatherhead, accusing me of having appropriated, in the part of the "Dictionary of Practical Medicine" lately published, certain opinions connected with the pathology of gout, from productions of his published in 1834 and 1835. It is well known that the *first* part of my Dictionary was published on the 30th of September, 1832; and in that part the opinions in question were fully stated and elucidated. In the *fourth* part of my work, under the articles "Gout" and "Headache," these opinions were restated, in more succinct terms, and in exact conformity with the views and opinions expressed, I believe, with much precision in the articles "Blood" (*published in 1832*), "Debility," "Crises," and "Disease" (*published in 1833*). The opinions in question have, moreover, been published by me long previously in other works; but it is sufficient for my purpose to show that they are contained in several articles

* See the *Gazette* of last night.

in the *first and second parts* of the "Dictionary of Practical Medicine," which appeared, respectively, two years and one year before the first of Dr. Hume Weatherhead's productions, for which he claims them. Had I been aware that Dr. Hume Weatherhead had published the opinions in question, I would certainly have claimed them in the latest part of my work; but although I referred to his productions, the opinions in question, as given in them, escaped my notice.

I have only to request any one who may take the least interest in the matter, to turn to the 114th paragraph of the article "*Blood*," where they will find at the conclusion of the paragraph and of the section entitled "*Of Vitiating of the Blood by the Fluids which form it*," the following inference, as a corollary to remarks on the changes effected in the blood by high living and indolence. After observing that such indulgences "give rise to a superabundant secretion of uric acid, and favour gravel," I further state, that "in such persons also *there is reason to suppose that urea, or uric acid, may exist in the blood, and be deposited from it in various parts of the body, particularly in the small joints.* The uric acid, which becomes thus abundant, is a highly azotised animal principle, obviously formed from the excessive use of food which abounds in azote; and when its appropriate emunctories, the kidneys, fail of carrying it out of the blood, it is secreted in other parts."—(*Dict. &c.*, Part I. p. 188).

Dr. G. Hume Weatherhead, in his "New Synopsis of Nosology," &c., published in 1834, two years after the above, states—"The writer entertains a persuasion that this disease (gout) is connected with some peculiarity of sanguification, either hereditary or acquired, *in which there are grounds for suspicion that urea, in some form or other, superabounds in the blood.*"—(P. 30.)

And Dr. G. Hume Weatherhead further states, in his "Treatise on Headaches," &c., published in 1835, in the chapter on "Arthritic Headache," that "There are various circumstances which prove that this acid (uric acid), or its base, urea, superabounds in the blood of gouty persons; the result, as I conceive, of a morbid condition of the function of sanguification, or rather, perhaps, of the immediate preparatory process of chylification" (p. 88); concluding thus:—"Now the probable inference from all the foregoing facts is, that gout is in reality occasioned by the superabundance of urea in the blood, generated in the intestines by an unhealthy process of digestion, induced by habits of luxury and indulgence; or it

proceeds from the same cause, in consequence of the same morbid habit of the digestive organs of a hereditary nature."

The above passages contain every word Dr. G. Hume Weatherhead has favoured us with on the pathology of gout; and I have placed them in juxtaposition, with only one excerpt, from several sections which I had long before written illustrative of the pathology of this and other allied diseases. After drawing the inference which I have quoted above, I proceed to shew that "*imperfect performance of the functions of depuration is a chief cause of morbid states of the blood*," and devote a whole section to this important part of pathology. Whoever will take the trouble of perusing this section will find the opinion above stated fully illustrated.

Again, in the articles "*Crises*," "*Debility*," and "*Disease*," published in 1833, I have stated and illustrated similar views. I beg leave to refer the reader to what I have insisted upon in these articles, in proof of a consistency of opinion existing not only in them, but also in the article "*Blood*," and in those on "*Gout*," and "*Headache—Arthritic*," recently published. Let him peruse what I have stated at the following places:—"BLOOD," § 110 to 115; "CRISES," § 15 to 19; "DEBILITY," § 25 to 43; "DISEASE," the whole chapter on the "*Connexion of Morbid Actions and of Organic Lesions with States of the Blood*," § 148 to 152, also § 162 to 177; "GOUT," § 37 to 43; and "HEADACHE," § 51; and let him read them attentively in connexion with the quotations from Dr. G. Hume Weatherhead's productions, bearing in mind the dates of publication, and he will then be able to judge as to who is the aggrieved party.

Scurrility is not necessary to the support of my statements, and I have therefore avoided having recourse to it.

I have the honour to be,

Your obedient servant,

JAMES COPLAND.

Bulstrode-street,
May 31, 1837.

THE
INAPPLICABILITY OF STATISTICS
TO THE
PRACTICE OF MEDICINE.

[In the discussion on medical statistics which has for some time occupied the Royal Academy of Medicine at Paris, the following paper, read by M. Double, and here slightly condensed, excited considera-

ble attention. It may be remarked, that his argument does not invalidate the general usefulness of statistics in medicine, but shows the absurdity of expecting that it will ever be able to guide us to an absolute mode of treating individual cases.]

The science of statistics is in these days one of the most fashionable; and in the ardour of their zeal its disciples have applied it indiscriminately to medicine. They have attempted to substitute mathematical for logical analysis—to make arithmetic take the place of induction—and calculation that of reason. Let us, then, consider what some expect from statistics applied to medical practice. In mathematical analysis, the probability of future events is calculated from the observation of preceding facts, but always under the rules of the universal laws of large numbers, and without any individual application.

In medical statistics, on the other hand, the numerical method is expected to determine from the observation of preceding facts, and according to their number, the best method of treatment in each individual case which may occur. This, however, is quite impossible; and I may remark, that were it ever effected, medicine would cease to be either a science, an art, or even a profession: it would become as mechanical as the employment of the shoemaker.

What is called in geometry the universal law of large numbers, is the rule and the foundation of all calculations of probabilities. One of the conditions of this law is, that the causes of the events calculated, though some are constant and others variable, yet can in no sense be said to vary progressively. From this law it results, that all the differences and irregularities which balance each other disappear in the quotient: and in this way the calculations of lotteries, of maritime insurances, &c. are made.

But this is evidently not applicable to medicine: neither our successes nor our failures balance themselves in large numbers, as in the case of marine insurances. Each of our problems embraces but one individual; and besides, diseases always have their prevailing character, varying progressively according to an infinite variety of causes.

M. Poisson, in his new work on the Calculation of Verdicts given by Juries, writes thus:—“In most questions of eventuality, the *à priori* determination of the chances of events is impossible, and it is only from observed results that we are able to calculate them. Thus we cannot

à priori calculate the chance of a vessel being lost in a long voyage, but we must compare the number of losses with that of voyages: when the number is large, the result is pretty constant, at least in each sea and in each nation; but if the calculation be founded on a small number of facts, there can be no certainty in the reckoner's results; if it be founded on a large number, the results are almost sure.”

Besides this, it must be remarked that mathematicians themselves are not all agreed as to the value of mathematical analysis applied to the calculation of probabilities.

The calculation of probabilities, from its very nature and profuse scope, only makes approaches to the truth; yet its results have often some degree of apparent certainty. Nevertheless, the facts on which such calculations are founded are so vague, uncertain, and variable, that the results are not to be depended on, and sometimes the most inconceivable mistakes take place.

The numerical method at once supposes and sanctions one of the greatest errors in therapeutics,—namely, the adoption of absolute and exclusive measures. The celebrated problem of Pickairn—“For a given disease to find the remedy”—is only reasonable, when understood in this way—“For a given indication, to find the best method of fulfilling it.” Each individual malady is not a simple phenomenon that can be represented by unity: it is not certain and fixed, but constantly varying. Thus the pneumony of to-day is not the pneumony of yesterday, and the pneumony of Peter is not that of Paul.

As an illustration, consider how disappointed the young physician is in passing from a lecture or a didactic work to the bed-side of the patient; and this because he is transferred from disease in the abstract to its reality. Take any large collections of cases: consider the epidemics of Hippocrates, the constitutions of Baillou, the letters of Morgagni, the consultations of Hoffmann, the *ratio medendi* of Stork, &c.—how many cases will you find alike? The universally admitted law of idiosyncrasy and of individuality, so infinitely variable, cannot be included in any calculation of probabilities. Let us first examine how the numerical method applies to a man in a state of health. Let us take two hundred healthy adults, of the same sex, age, profession, and condition: how many shall we find in exactly the same condition, so that we may say, “this health and that health make two?” Or let us take their powers of intellect or of digestion: how many are alike in their

intellect? how many have identical digestive powers? When the different series of uniform intellects and digestive powers have been made out, a separate and universal method of treatment for each series has to be invented; and how will you succeed in this?

Let us again suppose that there are in children, under the same circumstances, say a thousand women, and that the news of some grievous calamity is brought them; five of them may become deranged, and the other 995 not have their reason affected. In calculating probabilities, it is an easy matter to determine this. But will any physician be therefore satisfied that he may announce a piece of bad news to a lying-in woman without danger? Or let a thousand men, in a state of violent perspiration, drink a given quantity of ice-cold water: ten are seized with pneumonia, five with gastritis, and five with dysentery, while all the rest remain in perfect health.

But from theoretical grounds let us come to facts, and take typhoid fever, of which term, by the by, I do not at all approve; for, under it, gastric affections, bilious fever, entero-mesenteric fever, mucous fever, catarrhal fever, &c. are confounded. It was this that led to that inextricable chaos of difficulties in your late discussion on that subject. The mistake was, that by the name of typhoid fever was designated a certain peculiar morbid state, which may be a dangerous termination, or a troublesome complication, of almost all other diseases. Thus pneumonia, apoplexy, peritonitis, uterine phlebitis, phthisis in adults, surgical operations, &c. occasionally terminate with typhoid symptoms.

Still more so is this the case with bilious, catarrhal, and inflammatory fevers, which, according to my experience, all commence like typhoid fevers; and, though I have seen a great many cases, I have never seen typhus come on primarily, but always preceded by nervous or febrile reaction, such as biliousness, an affection of the stomach, &c.

And here I may remark, that I think it one evil of the present state of medicine, that our experience is too exclusively that of hospitals. We thus only see one condition of life, and the disease already established, and can seldom retain the patient long enough to see all the steps by which health is gradually re-established. It is in these patients, in whom we never see the commencement of the disease, that we meet with the most marked cases of typhoid fever.

Well, then, in this same typhoid fever, can any unique, absolute, and exclusive treatment be assigned? If the practice of

medicine did not already do so, sound logic would give a negative reply. When we consider the infinite modifications of circumstances, the degree of strength, the state of the nervous system, the moral condition, the idiosyncrasy, the age, the sex, the country of the patient, the nature, period, and prevailing character of the disease, &c. &c., we see how impossible it is that any employment of figures, any calculation, however nicely balanced, should lead to any uniform method of treatment. I have in another place shewn, that, in the opinion of Lacroix, Laplace, and Condorcet, reasoning, logic, and induction, are in medicine not less useful, or less certain, than numerical calculations: even in geometry, in almost all points, calculation has hitherto only proved what reasoning had already suspected. "Theory," said Laplace, "is only common sense applied to calculation." The different influences modifying disease, to some of which I have alluded, are no less numerous, for example, than the letters of the alphabet. Yet, consider the richness and variety of language formed out of these letters: by that you may form an idea of the variety of the circumstances attending disease; or, to push the analogy still farther, there are in the alphabet certain elements of more importance than the rest; in like manner disease has, so to speak, its vowels and its consonants.

For myself I must say, that the more I see of disease, the more does each case appear to me a new and a separate problem. When they see a new case, how many physicians can put down in figures the number of cases exactly similar which they have treated? I therefore think, that the useful results to be obtained from statistical calculations, in the treatment of typhoid fever, must be reduced to this: that we may usefully register the relative indications in cases within our own practice, and under given circumstances, of blood-letting, evacuates, tonics, &c. But the numerical method can never point out the treatment to be adopted in any one given case.

But the numericalists, finding the subject of typhoid fever difficult ground on which to fight, have taken the case of intermittents. With regard to intermittent fevers, however, we must not judge by those of the capital: first, because cases are rare in this country; and, secondly, because they yield easily under almost any means that are employed. It is in countries to the south that they are violent; and I may remark, in passing, that this is another instance of the complexity of disease in general.

But even in this country I have cured intermittents by the most different modes

of treatment—by local and general bleeding, by emetics, by purgatives, &c.; and if we examine the history of medicine, which, when well understood, is the best instruction that a physician can receive, we shall find that intermittent fevers, whatever may be their type, vary constantly in nature and in character, and yield to many different modes of treatment.

From all this it by no means follows that there are not in medicine certain general views, and fixed principles; on the contrary, in the treatment of every case we act upon them. They are precisely the views taught by the beautiful doctrine of indications, which can alone guide us in the treatment of fevers, and of diseases in general. The doctrine, then, to which I have been led by my own experience, and by the history of medicine, and which I have always held and advocated, is that of *eclectism*.

Its methods are analysis and induction; its aim, the wide and complete interpretation of facts; its result, the understanding of indications, with the knowledge of the best modes of fulfilling them. In short, it is the logic of facts, enlightened by the logic of thought. Yet to many this method is unpalatable: some are too impatient, some too indifferent; while others are incapable of pursuing continued trains of reflection. I am led, then, by my long and unwearied labours on this subject, to the following results:—

1. Individuality is an invariable element in pathology. A disease is not a simple, fixed, and uniform entity; it is a series of varied and changing actions; therefore every exclusive theory is absurd in pathology, and every absolute method repugnant to therapeutics.

2. Numerical and statistical calculations, open to many sources of fallacy, are in no degree applicable to therapeutics.

3. The only methods admissible in practical medicine are those of analysis, logic, and induction.—*Gazette Médicale*.

[The subject was continued and ably discussed at a subsequent meeting of the Academy. We shall give some account of the proceedings in our next.—ED. GAZ.]

CONSTITUTION OF THE MEDICAL DEPARTMENT,

HON. COMPANY'S SERVICE.

[Continued from page 325.]

WE have now brought the young medical gentleman to the period of his promotion to the rank of surgeon, up to which

period we left him still in debt, having only had the means previously to discharge the interest. It is unhappily too true, that up to this date the medical man has not received more than a bare subsistence, and, so far from being paid for the service he has rendered to the state, we will venture to prove that, considering the capital he has sunk in the attainment of his profession, and his outfit and passage to India, the poorest clerk in the Hon. Company's offices in Leadenhall-street is more amply and equitably remunerated; and that the Sudder Ameen, who has never expended more than a trifle upon his acquirements, and escaped all the anxiety and toil of laborious duties, reaps a higher salary, stands more elevated as regards independence and importance, than a young military assistant-surgeon under the direction of many masters, on each of whom he is dependent for consideration and kindness; and however distinguished for his intellectuality and scientific knowledge, he is still doomed frequently to experience opprobrium from his inferiors, in every other respect than that which the military commission confers, and is kept confined to his certified sphere, until he begins, after fifteen years' drudgery and humiliation, to look up a little, and to stand side-by-side with the youngest captain of a company. What are his circumstances at that time?

The senior assistant-surgeon now on the list on the Bengal side of India has been about fifteen years in that grade; the average age at which he enters the service is twenty-five: he is therefore now in his fortieth year, with a debt of rupees 8,600, or 860*l.* to be liquidated. Hitherto we have considered him only as a bachelor; if he has chanced to be married and has a family, of course he has not been able to pay even the interest of his debt, so that his debt must be nearly double that to which we have alluded.

The medical man is not considered fully qualified for the performance of his delicate and responsible duties unless he is married. Celibacy in him is a perpetual disadvantage; and he has no peace after he joins his regiment, until he leads to the hymeneal altar the destined partner of his dreary pilgrimage. In short, it is deemed essentially necessary that a medical man should be married to be chosen as a family practitioner; and he therefore complies ordinarily with what he finds to be the universal wish. We believe that at this moment the majority of medical men are married. The additional expenses attendant on this state, with a family, are now to be added to his items of expenses, which are far above what a family entails in Europe, where there is seldom a separa-

tion, and if for any period, the outlay is considerably lighter to what it is in India, where the separate establishment incurs a double expense. The medical man is frequently called upon field service, so that this double expense until of late years has been experienced by the majority of medical men in India.

Can the politician insure a continuance of peace, and secure the military surgeon from a similar contingency, in a country where nothing but opportunity is required to draw the sword from its scabbard to be wielded to our destruction? If he cannot, we are not taking up an improbable position to take this in our estimate. But we may be told that a medical man is not obliged to marry: be it so, and we retort, neither is he to break down those endearing affectionate ties of home and kindred, and sojourn in a land of bondage uncongenial to his nature, and deprive himself of the greatest consolation bestowed on man—we mean domestic happiness. To take a full view of the circumstances of the surgeon, on his attaining that rank which relates to the remuneration rendered for services during fifteen years in India, we must take into consideration what he is justly entitled to expect in return for the capital he has sunk for the attainment of the knowledge of his profession, and other expenses inseparable on his proceeding to fill the appointment in the Honourable Company's service. Looking back upon our former calculations, we find his expenditure to attain his degrees as surgeon has amounted at the least

to	£500
His outfit and passage to India,	200
Camp equipage, tentage, &c. ..	150

Total £850

Now five per cent., which is always to be obtained on the best security in London, on the above sum yields 42*l.* 10*s.* The interest, however, on the sum alluded to for fifteen years is 637*l.* 10*s.*, which, added to the principal, is 1487*l.* 10*s.* Thus, then, had the surgeon, instead of labouring for the acquirement of the medical profession—instead of bursting the ties of friends and relations—instead of enduring servitude in a tropical unhealthy climate for fifteen years on a bare subsistence, saved the time occupied in acquiring the knowledge of his profession, and applied his talents, the fruits of an academical education, to other profitable and honourable employment, he might after fifteen years, have been in possession of 1487*l.* 10*s.*, the amount of capital and interest sunk in coming to, and remaining in the Honourable Company's service. With this sum,

after fifteen years in Europe, he might have, in addition to emoluments from other occupations, purchased an annuity of 74*l.* 7*s.* 6*d.*; whereas by being in India, he is entitled to no pension whatever after fifteen years' servitude. Had he come out with the appointment of cadet, the sum expended in acquiring his profession would, in like manner, have been saved, and his expenses considerably lessened; gradations to rank and pension would also have been more numerous, honourable, and lucrative. If we are suspected in the least of having exaggerated the foregoing picture, we invite discussion to put us right. We are satisfied, however, that so far to the contrary is the case, that numerous medical men have made much greater sacrifices than we have described. Such, then, are the circumstances of the assistant-surgeon, after fifteen years' service, on his promotion to a surgeoncy. His allowances now are, at a full batta station, including deductions for Military and Orphan Funds, rupees 676. There are other contingencies in some regiments, which occasion further deductions, such as a band, mess contributions, &c. We may therefore consider the average receipts to be about 665. Allowing the expenses, as a bachelor and an assistant-surgeon, at 321, the very least additional average expense is 150, for wife and children. The disbursements of a full surgeon, as regards camp equipage, is greater than that of an assistant-surgeon; he is directed by the regulations of the Service to have a double-poled tent instead of a single, which is half the size, and therefore requires only half the carriage. Allowing, therefore, that the full surgeon's expenses amount to rupees 471, on the most economical scale of living, he has 194 rupees over and above to liquidate his debt of 8600, going still on at an interest of 12 per cent., the remittance of 194 rupees per mensem will liquidate the above in four years and eight months, supposing there is no interruption to his remittances. But this is not probable; he has to pay on his promotion, to the Widows' Fund, a donation of 120 rupees, if he is a married man; he has also to pay for his commission. We have hitherto considered him in the possession of good health, and therefore in the possession of the allowances of the medical charge of the regiment after the first five years of his entrance in India. We have placed him therefore in the most favourable position. Few surgeons are thus blessed, in a country wherein so many climates, in which they are doomed to sojourn, are inimical to their constitution and health. Most men, therefore, suffer serious illness at some time or other, and the consequence

is, that they are compelled to proceed to the hills, on the river, or to Europe; and thus they are not only deprived of their higher allowances, but have to incur the additional expense of boats, &c. Their remittances to discharge their debt now stop, and the interest on it soon doubles it. But another contingency, and a very common one, is, that his wife or some part of his family may suffer from the climate; and being compelled to proceed to Europe, he is again obliged to take another loan to defray their passage, and keep up a separate establishment in Europe. These are the most common contingencies.

Now hitherto we have, in our items of disbursement, not indulged the medical man with any luxuries, not even with scientific medical works, so essential to enable him to keep progress with the advance of medical science; and the Government do not admit even the least diminution in the post-office regulations on works of this nature, which put greater difficulties in his way. The medical man can neither indulge, consistently with economy, even in the periodical press. Thus, then, the surgeon continues in debt until he reaches his next grade, that of superintending-surgeon.—*India Journal of Medical Science.*

LABOUR, WITH PLACENTAL PRESENTATION,

WHERE

TRANSFUSION WAS TWICE PERFORMED*.

REPORTED BY

MR. JOHN JAMES JACKSON.

HANNAH C —, aged 39, a delicate-looking woman, with dark hair and eyes, and of a consumptive family, applied, on the 3d of December, to be attended from the Guy's Hospital Lying-in Charity, with her ninth child. She stated that her feelings were different to what they had been during any previous pregnancy; and that, at times, she experienced an uneasy sensation, which she referred to the womb. She likewise had a cough, which was relieved by the common linctus of the hospital. On the 18th, when getting out of bed, she was seized with a severe fit of coughing, followed up by a sudden discharge of blood from the uterus, amounting to about half a pint. When I saw her shortly afterwards, her countenance and general surface were exsanguineous; pulse 100, irritable; considerable dysp-

noea, with an anxious aspect; bowels constipated. She was ordered—

Acid. Sulph. Dil. ℥x.; Mag. Sulph. 3j.; Inf. Rosæ Comp. 3xij. To be taken immediately, and repeated every five hours.

All the bed-clothes, except a sheet, were withdrawn; and she was cautioned to take no warm fluid; to maintain the recumbent posture, with elevated hips, and perfect quietude. In the evening she was greatly improved: her pulse had fallen to 82, and the hæmorrhage had entirely ceased; she complained of grinding pains, for which she was ordered—

Opium, gr. j., to be taken at bed-time.

The remedies being continued for a few days, she recovered from her weakness, and could not be kept quiet any longer. On the 14th of January, at three o'clock in the morning, I was again sent for; and found she had lost nearly a pint of blood, owing, as she thought, to anxiety of mind, caused by the recent loss of several relatives, the dangerous illness of her brother, and the unkindness of her husband, who had alarmed her by his violent behaviour that night. I exhibited similar remedies to those used before; enjoined a strict observance of the horizontal position, her hips being raised by a firm cushion; and applied cloths dipped in cold vinegar and water to the lower part of the abdomen. This was attended with success, as far as regarded the bleeding, though the pains continued at intervals till Friday night, the 22d, when suddenly there was another discharge of blood. Her spirits became depressed; her pulse quick and small; severe pains occurring every twenty minutes, accompanied with the expulsion of clots of blood; the liquor amnii was also trickling away. Availing myself of a pain, I examined, and found a small portion of placenta projecting over the posterior edge of the os uteri, which was yielding. I now sent for Mr. Lever. After his arrival, there was no further uterine effort or bleeding; the pulse was 120, small, and the patient excessively low. On examination, he found the presentation as stated—the os dilatable, and the head within reach. He ordered tinct. opii ℥xxv., and enjoined quiet. During the two following days, the liquor amnii continued to escape; she was more comfortable; took her medicine; and, an anodyne being exhibited at night, she slept tolerably well. On Monday morning, although no subsequent hæmorrhage had occurred, there was sudden dyspnoea, with jactitation of the upper extremities; pulse quick, and small; no uterine effort;

* Guy's Hospital Reports, for April.

and every indication for a speedy emptying of the uterus. I ordered brandy, slightly diluted with water, to be administered to her, by means of a tea-spoon, every five minutes; and went for Mr. Lever, who immediately delivered her of a still-born child, by turning; Dr. Ashwell being present. After the child had been withdrawn, and the placenta removed, Mr. Oldham and myself alternately continued a steady grasping of the uterus for several hours; during which she had some mild nourishment, with brandy, given to her at intervals. The hæmorrhage consequent on the turning, although slight, had been sufficient materially to aggravate her already prostrated condition. The abdomen was tightly bandaged, and she was desired to keep perfectly still, avoiding even conversation with those around her. An opiate was given in the evening, but she obtained little sleep. Early on Tuesday morning she begged to have her linen changed, and the nurse, unfortunately, acceded to her request: soon after which the jactitation of the limbs became more violent, and it was found impossible to prevent her throwing herself about on the bed; she spoke incoherently about her brother; and it was evident she was rapidly sinking. I gave her brandy repeatedly, and the julep ammoniæ at intervals, but without success. At 3 P.M. Mr. Tweedie performed the operation of transfusion, taking the blood from Mr. Lever; and about 3vij. were injected into the median basilic vein. The effect of this, for a time, was surprising: her pulse, from being excessively rapid, and at times imperceptible, became full and distinct; her eyes regained their natural expression; and she spoke rationally and calmly. We now gave her a teacup-full of rich soup, repeating it and the brandy at intervals every quarter of an hour. At 4 P.M. she had again relapsed into a state approaching to insensibility; when Dr. Ashwell repeated the transfusion, taking the blood from her husband: she, as before, rallied for a time, but not to the same extent; then rapidly sunk, and expired a few minutes after five o'clock.

REMARKS.—This case is instructive, as showing that not only after large hæmorrhages, but even where the loss has not been so considerable, there is something wanted to revive and re-establish the living principle, which the supply of blood cannot furnish; and although I am far from believing that in all the instances where recovery has followed transfusion, the result would have been equally favourable without it, still I believe that an exhausted brain, even where sensibility remains, cannot be thus restored where real sinking has fully set in.

ROYAL INSTITUTION.

Friday, May 26, 1837.

Mr. Snow Harris on Electricity.

MR. HARRIS gave a very lucid view of the general laws and properties of Electricity, and of the condition of the atmosphere leading to thunder-storms, especially directing attention to the preservation of ships and other property, by means of conductors. He combated the vulgar opinion that conductors attract flashes of lightning to objects which would not otherwise be struck, by an appeal to facts, which show that during the same thunder-storm, different objects, such as church steeples, whether provided with conductors or not, are often struck by lightning, the steeples of churches so provided being preserved, while the others are damaged. He also disproved the opinion on theoretical grounds, and explained that, for instance, when a ship is at sea, the following is the case. The clouds and the sea, during a thunderstorm, contain different quantities of electricity. An equilibrium has to be restored between them. The lightning makes use of any intervening body, such as a ship, as a channel by which to make an interchange between the cloud and the sea. Therefore the ship, if within range, is struck by the lightning, whether provided with a conductor or not, and if not so provided, is injured. He strongly recommended the constant use of conductors in ships, and proved by many instances the bad effects resulting from their absence. These views he developed at considerable length, and with very great clearness, illustrating the whole by a number of experiments as beautifully planned as admirably executed.

In the library were some specimens of the art of lithographing in colours, lately invented by Engelman. They gave no very favourable impression of the art, which, however, is probably susceptible of great improvement.

MEDICAL ATTENDANCE UNDER THE COMMISSIONERS.

To the Editor of the Medical Gazette.

SIR,

I HAVE read the correspondence in the last number of your journal, between Dr. Webster, the President of the British Medical Association, and the Poor-law Commissioners, and was greatly surprised to find that in the answer to the third query of Dr. Webster—viz. "Are such appointments considered to be during good beha-

viour?—are they annual appointments, as under the old law?”—the Commissioners say that “the appointments of medical officers are annual.”

At the time of the formation of the Strand Union, I was a candidate for the office of surgeon to one of the districts, and, previous to my entering on my canvass, I had the following correspondence with the Poor-law Commissioners, as to the permanency of the appointment:—

COPY.

1, Henrietta-street, Covent-Garden,
April 6, 1836.

GENTLEMEN,—As it is my intention to offer myself as a candidate for the office of surgeon to one of the districts of the Strand Union, may I take the liberty of inquiring whether, in the event of my election, the appointment be a permanent or an annual one, and whether any future board of Guardians would have the power of removing me.—I am, gentlemen,

Your obedient servant,

JOHN WETHERFIELD.

To the Poor-Law Commissioners
for England and Wales.

COPY OF ANSWER.

Poor-Law Commission Office,
Somerset-House, April 11, 1836.

SIR,—The Poor-Law Commissioners for England and Wales have to acknowledge the receipt of your letter of the 6th instant; and in reply to your inquiry they desire to state, that the appointment of the paid officers of a Union are not annual, but during good behaviour, or until the Commissioners shall have cause to determine them.

Signed by order of the Board,

E. CHADWICK, Sec.

To John Wetherfield, Esq.
1, Henrietta-street, Covent-Garden.

I shall feel obliged by your inserting this communication in the next number of the MEDICAL GAZETTE, as it will show pretty plainly to the profession and the public that the Commissioners themselves are unacquainted with the law.

I have in my possession the original letter of the Commissioners, for the inspection of any professional gentleman, if a doubt should exist as to the correctness of my statement.—I am, sir,

Your obedient servant,

JOHN WETHERFIELD.

May 30, 1837.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, May 25, 1837.

Thomas Mather Ashton, Ormskirk, Lancashire.
Charles Henry Rogers Harrison, London.

James Lawton, Delph, Saddleworth.
John Smith, Whitehaven.
Henry Reece, Surrey.
George Weathers, London.
William Grove Salmon, Thornbury, Gloucestersh.
Hamilton Jenings, Fountain Hill, Ireland.
Thomas Lloyd Jones, Llanrust, Denbighshire.
Henry Snowden, Kingston-upon-Hull.
Richard Valpy Shuter, Lee House, Kent.

Thursday, June 1, 1837.

Edward Russ, of Castle Cary, Somerset.
William Hiron, of Campden, Gloucestershire.
James Thomas, of Newcastle Emlyn.
William Bliss, of Oxford.
John Scoffern, of Launceston, Cornwall.
Abraham Jones Williams, of Bala, Merionethshire.
Wotton Isaacson, of Mildenhall, Suffolk.
Wm. Fairclough Barker, of Northwich, Cheshire.
Thomas Clarkson, of Stanworth, Lancashire.
Edwin James Wilson, of Leeds.
Robert Abraham Varleas, of London.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, May 30, 1837.

Abscess	1	Hooping Cough	13
Age and Debility	38	Inflammation	28
Apoplexy	2	Brain	3
Asthma	10	Lungs and Pleura	7
Cancer	1	Insanity	1
Childbirth	1	Liver, diseased	3
Consumption	32	Measles	7
Convulsions	22	Mortification	2
Croup	2	Paralysis	1
Dentition or Teething	6	Sore Throat and	
Dropsy	11	Quinsey	4
Dropsy in the Brain	12	Spasms	1
Dropsy in the Chest	1	Stricture	1
Epilepsy	1	Unknown Causes	15
Fever	7		
Fever, Scarlet	1	Casualties	6
Gout	1		

Increase of Burials, as compared with }
the preceding week } 13

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

May.	THERMOMETER.		BAROMETER.	
Thursday . 25	from 25 to 63		29.80 to 29.78	
Friday . . 26	38	66	29.80	Stat.
Saturday . 27	28	69	29.88	29.95
Sunday . . 28	32	61	29.98	29.94
Monday . . 29	45	68	29.93	29.95
Tuesday . . 30	38	65	29.98	30.00
Wednesday 31	34	67	29.99	29.92

Wind, S.W.

Generally clear: a little rain fell on the afternoon of the 28th, also on the mornings of the 30th and 31st.

Rain fallen, .025 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

The communications of Dr. Hamilton, of Edinburgh, and of Mr. North, have been received; but too late for insertion in the present number.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, JUNE 10, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXIV.

WE proceed to notice the family

ROSACEÆ;

and the first of the genus to be spoken of is *Rosa*, commencing with

Rosa gallica : the red officinal Rose.

History.—Roses are mentioned by the ancient writers, but it is difficult, if not impossible, to ascertain in all cases the precise species referred to.

Botany.—*Rosa gallica* is a native of the south of Europe; but a considerable number of sorts are cultivated in our gardens. Decandolle mentions twelve distinct varieties; but among gardeners a much larger number is admitted, some of which, however, would only form sub-varieties. London enumerates one hundred and ninety-one garden varieties.

The specific characters of this species are, according to Decandolle, as follows: prickles unequal; stipules narrow, straggling; leaflets from five to seven, coriaceous, rigid, ovate or lanceolate, deflexed; flower-bud (*alabastrus*) ovato-globose; sepals spreading; fruit sub-globose, coriaceous; calyces and peduncles more or less very finely glandular-hispid, somewhat viscid.

The genus *Rosa* belongs to class *Icosandria*, order *Polygynia*, in the Linnean arrangement.

497.—xx,

The dried petals of the unexpanded flowers constitute the *Flores Rosarum rubrarum* of the shops. They are prepared by gathering the flower-buds, removing the calyx and claws, and drying the petals in the sun, or by a fire. When dry they are sifted to remove the stamina, insect-eggs, &c. Two thousand flowers yield about one hundred pounds of fresh petals, which, when dried, weigh about ten pounds.

The dried petals have a velvety appearance; their colour is purplish red; their odour, which is principally developed in drying, is agreeable; their taste is bitterish and astringent. Their constituents, according to Cartier, are—

Tannin.
Gallic acid.
Colouring matter.
Volatile oil.
Fatty matter.
Albumen.
Salts of potash and lime.
Silicic acid and oxide of iron.

The presence of astringent matter (tannin and gallic acid) in the infusion is shewn by the dark colour produced by the ferruginous salts, and by the tannogelatin formed on the addition of a solution of gelatine.

Red rose leaves are mild astringents and tonics; but their powers in this way are very slight.

We employ them principally for their colour and flavour. Thus the compound infusion of the Pharmacopœia is an agreeable vehicle for the exhibition of sulphate of quinia, or sulphate of magnesia, or alum. The sulphuric acid which it contains renders it refrigerant, but makes it incompatible with certain substances, for example the acetate of lead,—the activity of which the acid completely neutralizes. The confection of red rose is another officinal preparation of these petals. Its principal value is as a pleasant vehicle for other agents: thus we employ it in the manu-

facture of pills (as the *pilulæ hydrargyri*), and electuaries. The *honey of roses* is a third preparation of red roses, used for a similar purpose to the two former, namely, as a vehicle for other more potent agents.

Rosa centifolia: the hundred leaved Rose.

History.—Pliny speaks of a species of rose which, he says, is called “centifolia,” and grows about Campania, in Italy, and about Phillipos, in Greece.

Botany.—This is another officinal species, many varieties of which are cultivated in gardens. Decandolle admits seventeen varieties; and London enumerates eighty-five garden varieties. One of the best known of them is the *moss rose* (*R. muscosa*.)

The specific characters of this plant are—prickles nearly erect, scarcely dilated at their base; leaflets five to seven, ovate, the margin glandular,—a little more flaccid, with short hairs on the under surface; flower-bud (*alabastrus*) ovate, short; sepals spreading, not deflexed; fruit ovate, somewhat pulpy; calyces and peduncles glandular-hispid, viscid, fragrant.

The petals possess a most delightful odour, which they owe to the presence of a small quantity of a well-known fragrant volatile oil, commonly termed *attar of roses*. The taste of these petals is sweetish, though somewhat acidulous and bitter.

The odour of roses is to most persons not only innocuous, but agreeable and delightful. On some, however, it acts as a poison. The symptoms produced are for the most part those indicating a disordered condition of the nervous system,—as headache, fainting, hysterical symptoms, &c.; but occasionally there have been indications of local irritation, such as inflammation of the eyes, &c.

The *attar* (called also *otto* or *uttir*) of roses is obtained from various species of *Rosa*. It has a less specific gravity than that of water, and is combustible. It consists of two parts of a liquid volatile oil, and one part of a solid oil. The latter, called sometimes *rose camphor*, or *stearoptène*, fuses at about 60° F. According to Dumas it consists of—

Carbon	85.45
Hydrogen	14.55
	<hr/>
	100.00

Hence its composition is analogous to that of those compounds of carbon and hydrogen which consist of an equal number of atoms of their constituents. The liquid oil (*eleoptène*) has not been accurately examined; it contains, besides carbon and hydrogen, traces of oxygen and nitrogen.

The petals are mild laxatives. The *syrup of roses* is sometimes given to new-born infants in the dose of a tea-spoonful, to act on the bowels. Usually, however, this preparation is employed for its flavour and colour, as an addition to other medicines. *Rose water* and *Attar of Roses* are only employed for their odour.

Rosa canina: var. *glabra* (Decandolle).

History.—The *κυνροδοῦν* of Hippocrates, the *rosa sylvestris*, or *cynorrhodon*, of Pliny, is supposed to be our *Rosa canina*.

Botany.—The *Rosa canina* of Decandolle (the authority followed by the College of Physicians in the preparation of the *Pharmacopœia*) includes a number of plants which by some botanists are considered as distinct species. As all of these are not employed in medicine, it is of some importance to point out the officinal plants. In the *Pharmacopœia* this is not done; I may, therefore, just mention, that the variety *glabra* of Decandolle is synonymous with the *R. canina* of Smith, which is the plant usually employed in this country in the preparation of the Confection of Dog Rose.

This shrub is usually six or eight feet high. The prickles are distant, strongly hooked, and compressed. The leaflets are ovate, acute, smooth, and simply serrated. The stipules are linear, taper-pointed, and very finely serrated. The sepals are pin-natifid, and deciduous; the petals are pink; the stamina are very numerous, and are inserted on the calyx; the styles are also attached on the sides of the calyx. The fruit (commonly termed the *hip* or *hep*) is composed externally of the persistent calyx, whose sides have become thick, fleshy, and of a red colour: internally there are numerous, hard, hairy akenia (the fruit properly so called), each of which contains an exalbuminous seed.

The pulp or fleshy matter of the persistent calyx has a pleasant, sweet, acidulous taste. The hairs surrounding the akenia act as mechanical irritants, like the hairs of the pods of cowhage; hence one of the French vulgar names for the fruit of the dog rose—*gratte-culs*. The sweetness of the pulp depends on the presence of un-crystallizable sugar; the acidity on citric and malic acids. There is also some tannin present, which gives the pulp a slight astringency.

The only preparation of this plant is the *Confectio Rosæ caninæ*, commonly termed *Confection of Hips*. This is made by carefully separating the seeds and hairs from the ripe fruit, heating the pulp, and adding sugar. The sugar and pulp are then to be rubbed together until they are well mixed. This preparation is nutrient, acidulous, and refrigerant. It is commonly employed

as the vehicle of other more active remedies, for making pills and electuaries.

Potentilla Tormentilla.

This is a common indigenous plant, growing on moors and heathy places. The root is perennial, and consists of a thick, knobby, somewhat bent caudex, beset with brown fibres. The stems are weak, filiform, ascending, and dichotomous. The leaves are ternate, sessile; the leaflets inciso-serrate. The flowers are small, axillary, and solitary; the calyx is four-parted, with four bracteal leaflets, and four yellow petals. The receptacle is hairy.

In the Linnean arrangement the class and order of this plant are *Icosandria Polygynia*.

The root constitutes the *radix tormentillæ* of the shops, which should be collected in the spring. Its external form is very irregular, sometimes it is more or less cylindrical, at others tuberculated and knobby. Its colour externally is dark red brown, internally flesh-red or brownish. Its taste is astringent.

The analysis of Meissner gives the following as the constituents of the dried root.

Myricin	2·000
Cerin	5·125
Resin	4·250
Tannin	174·000
Tormentilla—red.....	180·500
Ditto, altered	25·750
Gummy extractive (with some tannin and vegetable salts of lime).....	43·250
Gum } extracted by {	282·000
Extractive } caustic potash {	77·000
Volatile oil	traces.
Woody fibre	150·000
Moisture	64·500

1008·375

The presence of tannic acid in this root is readily shown by the blackish green colour produced in the infusion by the ferruginous salts, and by the tanno-gelatin thrown down on the addition of a solution of gelatine. Iodine detects starch in the root. Bahlmana and Grisebow state they found ellagic acid in this root.

Physiological effects.—The operation of tormentilla is precisely like other vegetable astringents so frequently noticed in previous parts of the course.

Uses.—The uses also are precisely similar, and need not, therefore, be enumerated.

Dose and administration.—The powder may be given in doses of from half a drachm to a drachm. The decoction is administer-

ed to the extent of two ounces: it is also used as an astringent wash and injection.

SUB-ORDER: POMEÆ.

Cydonia vulgaris: the Quince tree.

History.—The quince was employed in medicine by Hippocrates.

Botany.—The quince tree is not of sufficient importance in a medical point of view to call for a botanical description. It belongs to class *Icosandria*, order *Pentagynia*, in the Linnean arrangement.

The fruit (the *quince* of the shops) is about the size of a pear, yellow and downy externally, and has a remarkable but rather pleasant odour. It contains five cells, in each of which there are from eight to fourteen seeds.

The seeds (*semina cydoniæ* of the shops) are the only officinal parts of the plant. They are ovate, acute, flat on one side, convex on the other, and of a reddish brown colour. The most external of the seed-coats, the *epidermis seminalis* of Bischoff, is composed of very fine cells, in which is lodged a large quantity of mucilage. When, therefore, we throw these seeds into water, the mucilage swells up, highly distends the tender cells, and ultimately bursts them. [For a drawing of the coats of the quince seed, see fig. 1859, Table XLII., of Bischoff's "*Handbuch der botanischen Terminologie*."]

Quince seeds are employed in medicine only on account of their mucilage. In the London Pharmacopœia there is a formula for a *decoction of quince seeds*, which is prepared by boiling two drachms of the seeds in a pint of water. It is principally employed as an emollient and sheathing application to the inflamed conjunctiva, to the skin when affected with erysipelas, and to the mouth when excoriated.

SUB-ORDER: AMYGDALÆ.

Amygdalus communis.

History.—The almond tree was well known to the ancients: it is referred to in the Old Testament, as well as in the works of Hippocrates, Theophrastus, Dioscorides, and Pliny.

Botany.—It is a native of Barbary, and has for a long period been cultivated in the southern part of Europe. The stem is usually from twelve to sixteen feet high. The leaves are oblong-lanceolate, more or less acute, minutely serrated, and placed on glandular footstalks. The flowers are moderately large, rose-red, or white, and are nearly sessile. They appear in great numbers early in spring, and are a great ornament to our gardens. The calyx is campanulate, and five-cleft. The corolla consists of five oval petals.

The stamina are numerous (about thirty), inserted into the calyx. There is one pistillum composed of a round ovarium, a short simple style, and a round stigma.

The fruit is an ovoid compressed drupe, marked with a longitudinal furrow where it opens when ripe: its epicarp is greenish-grey and tomentose; the mesocarp is fibrous; the endocarp (commonly called the almond-shell) is usually woody or almost osseous, and is often marked externally with fine depressions (or pits) or furrows. In each drupe there is usually one seed, (sometimes there are two), which is the kernel or almond commonly so termed; it is of an oval shape, compressed, rounded at one end, pointed at the other. The outer covering of the seed (the *epidermis seminalis* of Bischoff) is glanduliferous, of a reddish-brown colour, and is beautifully marked or veined by the ramifications of the *raphe*. All the pointed extremity of the seed is a small perforation (the *foramen*), and on one side of this, at the edge, is a rugged line (the *hilum*), which constitutes botanically the *base* of the seed. The seed is connected at the hilum by the *funiculus*, or *umbilical cord*, with the base of the shell or endocarp. The large or rounded end of the almond is curiously enough termed its *apex*. By soaking the seed in warm water, its coats (*spermoderm* of Decandolle), which form what are commonly called the *skin* or *pellicle* of the almond, are readily removed, and the almonds are then said to be *blanched*; the internal coat (the *endopleura* of Decandolle) is somewhat tumid, and at that part corresponding to the blunt or rounded end of the almond, it is dark coloured, indicating the situation of the *chalaza*. The *nucleus* of the seed (familiarily known as *blanched almonds*) consists of the *embryo* only, there being no albumen. This embryo is composed of two large fleshy *cotyledons*, between which, at the pointed extremity of the seed, we observe the *plumule*, with the *radicle* pointing towards the foramen.



FIG. 184.—Section of an Almond.

a. One of the cotyledons.
b. Radicle and plumule.

The Linnean class and order of *Amygdalus* is *Icosandria Monandria*.

VAR. 1. *Amygdalus communis dulcis*.

This variety is principally characterised by the sweet taste of the seeds.

Sweet almonds (*amygdalæ dulces*) were analysed by Boullay, who found them to consist of the following substances:—

Fixed oil.....	54.0
Vegetable albumen (the <i>caseum</i> or <i>emulsin</i> of some chemists) ..	24.0
Liquid sugar	6.0
Gum	3.0
External coats (<i>spermoderm</i>) con- taining an astringent matter	5.0
Woody fibre	4.0
Water	3.5
Acetic acid and loss	0.5
	<hr/> 100.0

Oil of sweet almonds.—Notwithstanding its name, this oil is procured by pressure indiscriminately from sweet and bitter almonds. An expressor of oils informs me that the average produce is about 48 per cent., which is rather below the quantity of oil stated by Boullay to reside in these seeds.

Almond oil, when recently expressed, is turbid, but by rest and filtration becomes quite transparent. It usually possesses a slightly yellow tinge, which becomes somewhat paler by exposure to the light. It is inodorous, or nearly so, and has a bland sweetish taste. It congeals much less readily by cold than olive oil. Its specific gravity varies from 0.917 to 0.920. Æther readily dissolves it: six parts of boiling, or twenty-five parts of cold alcohol, are required to dissolve one part of this oil.

It consists of—

Elain	76
Margarin (stearine of Braconnot)	24
	<hr/> 100

The ultimate constituents of the oil are, according to Saussure:—

Carbon.....	77.403
Hydrogen	11.481
Oxygen	10.828
Nitrogen	0.288
	<hr/> 100.000

Adulteration.—Gingilie oil is sometimes substituted for almond oil. It is procured by expression from the seeds of the *Sesamum orientale*, a native of India, belonging to the natural order *Pedaliaceæ*, and in the Linnean arrangement to class *Didynamia*, order *Angiospermeæ*.

These seeds are about the size of grains of mustard: they are flat, cordate, and yellowish-white. Gingilie oil more readily congeals than almond oil.



FIG. 185.—*Sesamum orientale*.

Physiological effects of sweet almonds.—Sweet almonds are nutritive and emollient. On account of the quantity of oil they contain, they are somewhat difficult of digestion, at least if taken in large quantities or by persons whose digestive powers are weak. When rancid, they are yet more apt to disorder the stomach. The husk or pellicle of the almond possesses irritant properties, and, therefore, when we use these seeds as articles of food, they ought to be blanched.

Almond emulsion (*mistura amygdylæ* of the Pharmacopœia) agrees in many of its properties with animal milk. Thus it is white; when examined by the microscope, is seen to consist of myriads of globules suspended in a liquid; chemically it is composed of fatty matter (oil), held in suspension by albumen, sugar, and gum; lastly, it agrees with milk in possessing nutritive and emollient properties.

Almond oil possesses the medical properties of the fixed oils in general. Thus its local action is emollient; swallowed in large doses it acts as a mild laxative,—in moderate quantities it is nutritive, but difficult of digestion.

Uses.—The *confection of almonds* of the Pharmacopœia is only employed in the preparation of the *emulsion* (*mistura amygdalæ*), which is used principally as a demulcent and emollient to allay cough in pulmonary affections, and as a vehicle for more active remedies. Sometimes it is administered in inflammatory affections of the alimentary canal or of the urinary organs. The dose is from one ounce upwards. *Oil of almonds* is used in the same cases as the oil of olives, presently to be mentioned.

Var. 2. *Amygdalus communis amara*.

This variety is essentially characterised by the bitterness and poisonous properties of the seeds.

Bitter almonds (*amygdalæ amaræ*) have been analysed by Vogel, who gives the following as their constituents:—

Volatile oil, containing hydro-	
cyanic acid..	quantity undetermined
Fixed oil	28·0
Vegetable albumen (<i>caseum</i> or	
<i>emulsin</i>)	30·0
Liquid sugar	6·5
Gum	3·0
External coats (<i>spermoderm</i>) ..	8·5
Woody fibre	5·0
	<hr/>
	80·0

I presume the water and volatile oil would make up the 100 parts. The subsequent investigations into the nature of the volatile oil have shown that the above analysis is very imperfect.

Essential oil of bitter almonds.—This is usually obtained from the bitter almond cake after the expression of the fixed oil.

Production.—The following method of procuring it was communicated to me by a chemist who prepares it for commercial purposes:—Introduce 42 lbs. of bitter almond cake, reduced to powder, into a still containing 80 gallons of water: distil off 15 gallons. To this distilled liquor add 14 lbs. of common salt (chloride of sodium), and again distil; return the distilled liquor into the still, and distil again a third, and, if necessary, a fourth time. The oil and the water come over together, and are to be separated by mechanical means.

The use of salt is not essentially necessary to the process, but I am assured the product is larger when it is employed. It is recommended by Krüger, Stange, and Gray. I am informed, that by the process above mentioned nearly half a pint of oil may be procured from 42 lbs. of cake. Gray says, 32 lbs. of cake yield 5½ ounces of oil. Geiger says, that if the cake be macerated for twenty-four hours before distillation, the proportion of oil produced is greater than if maceration be not performed.

The *theory* of the above process is somewhat curious. Chemists formerly supposed that the volatile oil resided in bitter almonds, and that by distillation it was merely volatilized, and afterwards condensed; but against this view the following facts may be urged:—

1. Bitter almond cake has no odour.
2. It yields no volatile oil by pressure.
3. It evolves no odour of the oil when heated dry.
4. Alcohol extracts no oil from the cake, although oil of bitter almonds is soluble in alcohol.
5. Alcohol dissolves out of the cake sugar, resin, and amygdaline. When the latter substance has been removed, the

cake is no longer capable of furnishing the volatile oil by distillation.

6. Æther extracts neither volatile oil nor amygdalin from bitter almond cake; but the cake, after the exhaustion of æther, is capable of yielding the volatile oil by distillation with water.

If, then, the volatile oil of almonds do not exist in bitter almonds (and the facts just mentioned warrant this conclusion), how is it formed? Apparently by the action of water on some one or more of the constituents of bitter almond; for hitherto no one has succeeded in obtaining it without water, and with this fluid it is speedily and copiously formed. Thus bitter almond cake, moistened with water, immediately develops the well-known odour of the volatile oil. It appears also that heat assists its production. As bitter almonds, when deprived of amygdaline, are incapable of furnishing this oil, it is tolerably clear that amygdaline contributes in some important way to the production of the oil. Hitherto, however, no one, I believe, has succeeded in generating it by the action of water on amygdaline merely; so that we may infer that the presence of some other substance is also required: what this may be, has not hitherto been ascertained.

The following are the leading properties of this oil:—Ordinarily it has a yellow colour, but when quite pure is said to be colourless; its odour is agreeable and peculiar, and its taste is hot and bitter. It is combustible, and burns with a white flame. It consists of—

1. Hydrocyanic acid.
2. Hydruret of benzule.

1. *Of the hydrocyanic acid contained in the essential oil of bitter almonds.*—The presence of this acid is readily detected by the usual tests for this acid. The quantity present is differently stated by different authorities, and probably is not uniform.

1 atom hydruret of benzule..	106	}	produce
2 atoms oxygen.....	16		
	<hr style="width: 50px; margin: 0;"/> 122		

When oil of bitter almonds, mixed with a strong solution of caustic potash, is exposed for some weeks to the air, a crystalline solid is formed, called *benzine* or *camphor of essence of bitter almonds*. It is isomeric with the hydruret of benzule.

If chlorine be passed into hydruret of benzule, we obtain hydrochloric acid and *chloride of benzule*. When dry ammoniacal gas is passed over this compound, muriate of ammonia, and a new substance called *benzamide*, is formed, whose composition is represented by— $C^{14} H^7 O^2 N^1$. Its atomic weight, therefore, is 121.

Amygdaline.—This substance is presumed to exist in bitter almonds, and is supposed

According to—

Hydrocyanic acid
in 100 parts of
the oil.

Schrader—in an old sample ..	8.5
Ditto—in a new sample	10.75
Göppert	14.33

2. *Hydruret of Benzule: essential oil of almonds freed from hydrocyanic acid.*—By distilling the essential oil of bitter almonds with caustic potash and a ferruginous salt, we obtain a limpid, colourless, volatile oil, whose odour and taste are very little different from the ordinary bitter almond oil. It is combustible, very poisonous, and has a specific gravity of 1.043.

It is composed of—

14 atoms carbon	14×6.. 84
6 atoms hydrogen	6
2 atoms oxygen	2×8.. 16
	<hr style="width: 50px; margin: 0;"/> 106

Now certain changes which this compound undergoes are best explained by assuming that the elements just now enumerated are so arranged that they form a hydruret of a base. This suppositious base has been named *benzule*; and it is assumed to be composed of—

14 atoms carbon	14×6.. 84
5 atoms hydrogen	5
2 atoms oxygen	2×8.. 16
	<hr style="width: 50px; margin: 0;"/>
1 atom benzule	105

On this theory, then, essential oil of bitter almonds, deprived of hydrocyanic acid, consists of—

1 atom benzule	105
1 atom hydrogen.....	1
	<hr style="width: 50px; margin: 0;"/>

1 atom hydruret of benzule 106

When this compound is exposed to the air, it attracts oxygen, and generates water and benzoic acid; for—

{	1 atom benzoic acid	113
	1 atom water.....	9
		<hr style="width: 50px; margin: 0;"/> 122

to be the sole cause of their bitterness. It contributes in some unknown way to the production of essential oil of almonds when these seeds are distilled with water.

It is a white crystallizable solid, without odour, but having a sweetish and, afterwards, bitter taste. It is not volatile; when heated it swells up, and evolves first an odour of caramel, afterwards that of the hawthorn blossom; it is soluble in alcohol, but not so in æther. Caustic potash dissolves it, and by boiling the solution evolves ammonia. Nitric acid decomposes it, generating, among other products, benzoic acid.

It is composed of—

34 atoms carbon	34×6	204
26 atoms hydrogen		26
1 atom nitrogen		14
14 atoms oxygen	14×8	112
1 atom amygdaline		356

Henry, jun. & Plisson.

58·5616

7·0858

3·6288

30·7238

100·0000

Physiological effects of bitter almonds.—(a.)

On animals generally.—Bitter almonds are more or less poisonous to all classes of animals. Thus a few almonds are sufficient to destroy the smaller animals, as pigeons and fowls; twenty have killed a robust dog. The local operation of these seeds is irritant—the remote action is precisely that of hydrocyanic acid.

(b.) On man.—In small doses bitter almonds sometimes act as irritants, and occasion nausea, vomiting, and purging. Occasionally, also, an eruption somewhat like urticaria, preceded by disorder of the cerebro-spinal system, analogous to that caused by intoxicating agents, is brought on. In large doses the effects are precisely similar to those of hydrocyanic acid.

Effects of the essential oil of bitter almonds.—This is a most potent poison, acting as rapidly as hydrocyanic acid. A few years since death occurred in this street (Aldersgate street) from the use of it. A lady afflicted with worms resolved to take the remedy (beech-nut oil) recommended in a celebrated cookery book. She accordingly applied to a chemist for it: he, thinking she meant peach-nut oil, gave her the oil of bitter almonds, which being administered according to the prescription occasioned her immediate death.

The distilled water of bitter almonds and the emulsion of bitter almonds are both poisonous.

I do not think it necessary to enter into further details respecting the effects of bitter almonds or their preparations, but must refer to the valuable work of Dr. Christison.

Uses.—Bitter almonds are not employed in medicine in this country. On the continent, however, they are used as a substitute for hydrocyanic acid.

Antidotes.—The method of treating cases of poisoning by them is precisely similar to that already mentioned for hydrocyanic acid.

Cerasus lauro-cerasus.

By distillation, the cherry laurel yields a water and an essential oil, both of which contain hydrocyanic acid, and are powerful poisons. They are not now employed in medicine in this country.

OLEACEÆ.

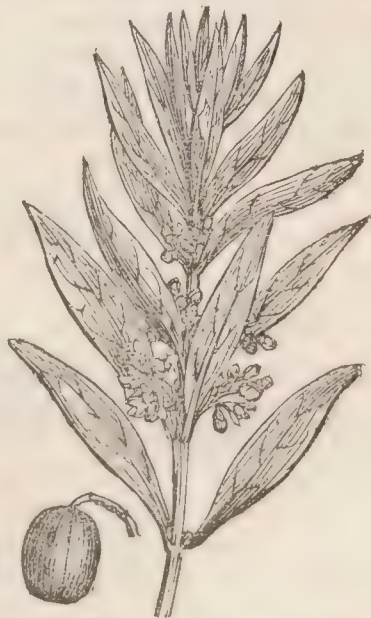
This family contains two officinal genera, *Olea* and *Ornus*.

Olea europæa.

History.—Few vegetables have been so repeatedly noticed and enthusiastically described by the ancient writers as the olive tree. In all ages it seems to have been adopted as the emblem of benignity and peace. It is frequently mentioned in the Bible: the ancient Greeks were well acquainted with it; and several products of it were employed in medicine by Hippocrates. Pliny is most diffuse in his account of it.

Botany.—Notwithstanding that the olive is now so common in the southern parts of Europe, it is supposed by many to have been derived from Asia. Pliny tells us on the authority of Fenestella, that there were no olive trees in Italy, Spain, and Africa, in the reign of Tarquinius Priscus, in the 173d year from the foundation of the city of Rome. The Phœnicians are said to have introduced the olive tree into France 680 years before Christ.

It is a tree which grows slowly, and may live for centuries; indeed there are some plantations of it in Italy which are supposed to have existed in the time of Pliny. Its ordinary height is from 20 to 30 feet. The wood is hard, and is employed in cabinet-work. The leaves stand in pairs on short petioles; they are lanceolate acute, on the upper side of a dark green, on the under, whitish. Countries like Provence and Languedoc, where the olive is extensively cultivated, have a dull and monotonous appearance, from the whitish character of the foliage.

FIG. 186.—The olive (*Olea europæa*).

Mr. Sharpe, in his 48th letter from Italy, says he was wretchedly disappointed to find the hue of this tree resembling our hedges when covered with dust.

The flowers are small and white; they form axillary compound racemes. The fruit is an elliptical dark bluish-green drupe, which incloses a very hard kernel (*pyrena*) in which there is usually only one ovule, the others having become abortive.

The Linnean class and order of the plant are *Diandria Monogynia*. The products of this species necessary to be noticed are the following.

1. *Resiniform exudation of the olive tree.*—The older writers speak of an exudation from olive trees, and which Dioscorides describes as the *tears of the Æthiopic olive*. In modern times it has been improperly termed *olive gum*. Pelletier has analysed it, and found that it consists of—

A peculiar matter, which he has termed *olivile*.

Brown resin, soluble in æther.

Benzoic acid.

It was formerly employed in medicine.

2. *Olive leaves.*—The leaves of the olive tree have been analysed by Pallas, who, among other products, found tannin and gallic acid. They have been employed externally as astringents and antiseptics; internally, as tonics in intermittents.

3. *Fruit of the olive tree.*—(a.) *Pickled olives: (olivæ conditæ).*—The preserved olives which are so admired as a dessert, are the green unripe fruit deprived of part of their bitterness by soaking them in water, and then preserved in an aromatised solution of salt. Several varieties are met with in commerce, but the most common is the small French, and the large Spanish olive. Olives *à la picholine* have been soaked in a solution of lime or alkali.

(b.) *Olive oil; Sweet oil.*—The olive is certainly remarkable as a fruit, from the circumstance of its sarcocarp abounding in a bland, fixed oil, which is readily obtained by expression. The process for procuring it is somewhat modified in different countries, but its principle is in all essentially the same.

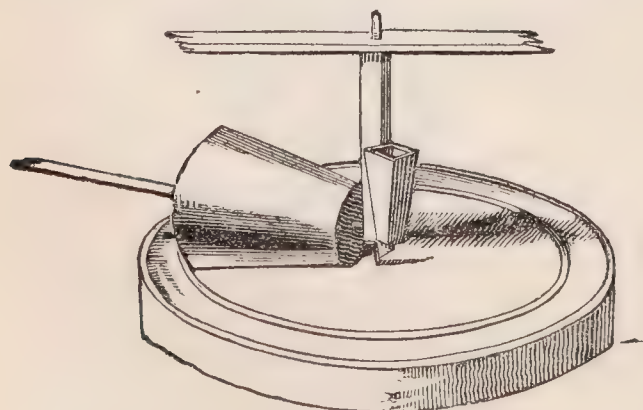


FIG. 187.—Spanish olive-oil mill.

In Spain the olives are pressed by conical iron rollers, elevated above the stage or floor, round which they move on two little margins to prevent the kernel being injured, the oil from which is said to have an unpleasant flavour.

Spanish olive oil, however, is inferior to other kinds, from the circumstance of the time which elapses between the gathering and the grinding of the olives. This arises from the number of mills not being in proportion to the quantity of fruit to be ground; so that the olives are placed in heaps to wait their turn, and in consequence often undergo decomposition.

An excellent account of the manufacture of French olive oil is given by Duhamel Du Monceau, in his "*Traité des Arbres Fruitiers*." The finest oil is procured by bruising the fruit in the mill immediately they are gathered, and then submitting the paste to pressure. The first product has a greenish tint, and is termed *virgin oil* (*huile vierge*). The cake or marc is removed from the press, broken up with the hand, moistened with boiling water, and repressed. The products are water, and oil of a *second quality*: these separate by standing. The cake which is left is termed *grignon*, and is employed by some as fuel; others, however, ferment it, and by the aid of boiling water obtain a very inferior oil, called *gorgon*, which is employed either for soap-making or burning in lamps.

With the view of increasing the quantity of oil, some persons allow the olives to undergo incipient fermentation, which breaks down the parenchyma of the fruit before they are pressed; but the quality of the oil is thereby injured. Guibourt tells us that it is a yellow, mild, agreeable oil, and is much used for the table.

Recently-drawn olive oil deposits, by standing, a white fibrous matter, which the ancients employed in medicine under the name of *amurca*.

In commerce we meet with several varieties of olive oil of unequal quality. A very fine kind (*Florence oil*) is brought from Florence in flasks, which are surrounded by a kind of net-work formed by the leaves of a monocotyledonous plant, and packed in what are called in commerce half chests. *Lucca oil* is imported in jars, holding nineteen gallons each. We have, besides, *Gallipoli*, *Sicily*, and *Spanish oil*: they are of inferior quality.

According to Sieuve (quoted by Decandolle), 100 lbs. of olives yield about 32 lbs. of oil; 21 of which come from the pericarp, 4 from the seed, and 7 from the woody matter of the nut (*pyrena*). That obtained from the pericarp is of the finest quality.

Olive oil is an unctuous fluid, of a yellow or greenish-yellow colour, having little or no

odour, and a mild taste. It is lighter than water; readily dissolves in æther, but is very slightly soluble only in alcohol. With alkalies it forms soaps. The *Castile soap* employed in medicine is made with this oil and soda: it is essentially a mixture of *oleate* and *margarate of soda*. Olive oil combines with the oxide of lead to form the well-known *emplastrum plumbi* or *oleo-margarate of lead*. By exposure to air this oil readily becomes rancid.

Composition.—Olive oil is composed of—

Elain (or Olein).....	72
Margarin	28
	<hr/> 100

In cold weather the margarin is partially deposited as a white granular solid.

The ultimate constituents of olive oil, as well as of its elain and margarin, are the following:—

	Olive Oil. (Gay-Lussac and Thenard)	Elain. (Saussure.)	Margarin. (Saussure.)
Carbon	77·213	76·034	82·170
Hydrogen	13·360	11·545	11·232
Oxygen.....	9·427	12·068	6·302
Nitrogen	0·000	0·353	0·296
	<hr/> 100·000	<hr/> 100·000	<hr/> 100·000

Adulteration.—Olive oil is said to be sometimes adulterated with poppy oil, though I believe such an occurrence to be rare in this country. Four methods, however, have been proposed for detecting the fraud; and as they have reference to some characteristic properties of olive oil, they deserve notice. The first is the *beading*: if we shake pure olive oil in a phial half filled with it, the surface of the oil soon becomes smooth by repose; whereas when poppy oil is present, a number of air-bubbles (or *beads*, as they are termed) remain. The second method is by *congelation*,—olive oil more readily congealing than poppy oil. The third method is that founded on the conducting power of the oil for electricity, and is effected by an instrument called an *electrical diagometer* (so called from *διάγω*, to conduct, and *μετρεω*, to measure). This consists of one of Zamboni's dry piles and a feebly magnetized needle, moving freely on a pivot. The electricity developed by the pile is made to produce a deviation in the direction of the needle; but when any substance is interposed between the needle and the pile, the deviation is less in proportion to the bad conducting power of the interposed substance. Now the conducting power of olive oil is, according to Rousseau, 675 times worse than other vegetable oils; but the addition of two drops of poppy or beech nut oil to 154 $\frac{44}{100}$ grains of olive oil is sufficient to quadruple the conducting power of the latter. The fourth method is by *nitrate of mercury*. If recently-made nitrate of mercury (prepared by dissolving 6 parts of mercury in 7·5 parts of nitric acid, sp. gr. 1·36) be mixed with

twelve times its weight of pure olive oil, and the mixture strongly agitated, the whole mass becomes solid in the course of a few hours. With poppy or other oils, the nitrate of mercury does not form a solid compound, and therefore when they are mixed with olive oil, we judge of their presence and quantity by the degree and quickness of solidification of the suspected oil. I have already discussed the theory of the process.

Effects and uses.—Taken in small quantities, this oil, like other fatty substances, is nutritive, but requires considerable powers of digestion for its assimilation. I have, however, already offered some remarks* on the dietetical qualities of fatty bodies; and I need not now reopen this subject. In this country the employment of olive oil for the table is limited, when we compare it with the extensive and important uses made of it in some other more southern countries. Thus in Spain it is consumed as a substitute for butter.

In large doses, olive oil acts as a laxative, usually without pain. For this purpose we sometimes employ it in irritable, inflammatory, or spasmodic affections of the intestines, and in analogous disorders of the urinary or sexual organs; and frequently it is added to mild laxative enemata, in dysentery, in uterine affections, and other cases where we wish to avoid the use of irritant agents. Sometimes oil is employed as an anthelmintic.

In some cases of poisoning it is used as an emollient and demulcent. Thus it in-

* See MEDICAL GAZETTE, vol. xvii. p. 324.

volves acrid and corrosive substances, and sheaths the stomach from their action. At one time it was supposed to possess antidotal properties for arsenical poisons; and Dr. Paris tells us, that the antidote on which the men employed in the copper smelting works and tin burning-houses in Cornwall, rely with confidence, "whenever they are infested with more than an ordinary portion of arsenical vapour, is sweet oil, and an annual sum is allowed by the proprietors, in order that it may be constantly supplied." There is, however, no reason to believe that its agency is more than mechanical, as already mentioned. Oil was formerly recommended as an antidote for cantharides, but the discovery of the solubility of cantharadin in oil has led to the suspicion that instead of alleviating it might increase the patient's danger. There is no just ground for supposing that oil, applied externally or taken internally, has any particular influence in counteracting the operation or relieving the effects of the poison of venomous serpents, notwithstanding the high encomiums that have been passed on it.

Besides these, there are other medicinal uses to which olive oil has been applied, but which I think it sufficient merely to allude to. Such are, the internal exhibition of large quantities of it in arthritic pains,—the employment of oil frictions in dropsy,—the anointing the body with warm olive oil as a preventive of plague,—and the use of oil for besmearing surgical instruments, as bougies, &c.

Lastly, I may remind you of the extensive use made of olive oil in various ointments, cerates, liniments, and plasters.

Dose and administration.—As a laxative, the dose is one or two fluid ounces. As an emollient and demulcent, it is sometimes taken in the form of an emulsion, made with either alkali or gum.

Ornus europæa.

History.—Theophrastus mentions two species of Fraxinus, or Ash (Μελία), one of which is supposed to be the common ash (Fraxinus excelsior), the other and smaller species the Manna Ash (formerly termed Fraxinus Ornus, but now Ornus europæa). If this opinion be correct, it is probable that the ancient Greeks were acquainted with our Manna. But although several kinds of *honey-dews* (supposed to have been exudations of plants) are described in the old writers, the first who undoubtedly refers to our Manna is Actuarius.

Botany.—The Manna Ash is a native of the south of Europe, especially of Calabria and Sicily. In its general appearance it greatly resembles our common Ash. The leaves are opposite, large, and pinnate;

consisting of from seven to nine ovato-oblong, more or less pointed and irregularly toothed leaflets. The flowers are small and polygamous, and they form large, many-flowered panicles. The calyx is four-cleft; the corolla consists of four narrow, yellowish, or greenish-white petals. The fruit is flat, wedge-shaped, smooth, and winged, and is analogous to that of the common ash.

It belongs to class *Polygamia*, order *Diœcia*, in the Linnean arrangement. Sprengel, however, places it in *Diandria Monogynia*.

Exudation of Manna.—Manna is an exudation from the stem of the Ornus europæa; which, according to some accounts, takes place spontaneously, but is promoted by incisions made in the bark by means of a sharp crooked instrument. It first appears as a thick whitish juice, which gradually hardens on the bark. Sometimes the exudation is so copious that the juice runs on the ground.

Physiological nature of Manna.—By many, the juice, which, when hardened, constitutes Manna, is supposed to be the succus proprius of the tree, and to reside in the interior cortical layers. But there are some doubts respecting the correctness of this opinion, for (as Decandolle remarks) the Ornus europæa does not furnish manna in countries more northern than Calabria. And it would seem that the escape of manna does not occur naturally, but is always owing to some foreign action. According to Tenore, it occurs only after incisions made in the bark towards the end of July. Some think it is produced by the puncture of a little hemipterous insect (*Cicada Orni*) very common on this tree. [See *Decand. Phys. Veget.*]

Varieties and physical properties.—I have received three varieties of manna, under the names of *Flake*, *Sicilian Tofa*, and *Sicilian manna*.

1. *Flake manna.*—This variety consists of pieces of from one to six inches long, one or two inches wide, and from half an inch to an inch thick. Their form is irregular, but more or less stalactitic; most of the pieces being flattened or slightly hollowed out on one side (where they adhered to the tree or substance on which they concreted), and on this side they are frequently soiled. Their colour is white, or yellowish-white; they are light, porous, and friable; the fractured surface presents a number of very small capillary crystals. The odour is somewhat like that of honey, and is to me rather unpleasant; the taste is sweet, but afterwards rather acrid. This is the kind, I presume, which is sometimes termed *tear manna* (*manna en larmes*, Guibourt), or *tubular manna* (*Röhren manna*, Geiger). It is imported in deal boxes,

lined with tin plate and having tin partitions.

2. *Common manna*.—This kind I received from a druggist, under the name of *Sicilian Tofa Manna*. It is the *manne en sorte* (*manna in sorts*) of the French. It occurs in small pieces, which seldom exceed an inch in length: some of these present the same appearances, with respect to consistence, colour, friability, and crystalline appearance, as the flake manna; others, however, are soft, viscid, brownish, and uncrystallized, like those of the fat manna.

3. *Fat manna*.—This variety was sent to me marked *Sicilian manna*: it agrees with the *manne grasse* (*manna pinguis*) of some pharmacologists, and consists of small, soft, viscid fragments, of a dirty yellowish-brown colour, intermixed with some few dark-coloured small pieces of the flake variety. It contains many impurities intermixed.

Composition.—The constituents of manna according to Bucholz are,

Mannite	60·0
Uncrystallizable sugar, with a purgative matter	5·5
Gum	2·3
A fibro-glutinous substance	0·2
Water and loss	32·0
	—
	100·0

Mannite, or, as it is sometimes termed, *manna sugar*, is a crystalline substance extracted from manna by means of alcohol. It does not reside exclusively in this substance, but exists in onion juice, beet root, celery, &c. It is white, has a sweet taste, dissolves in all proportions in water, forming a kind of syrup, and is soluble in boiling alcohol. Heated strongly it is decomposed as sugar. It differs from ordinary sugar in its being incapable of undergoing the vinous fermentation. It consists, according to Liebig, of

6 atoms carbon .. 6×6	36
7 atoms hydrogen	7
6 atoms oxygen .. 6×8	48
	—
	91

It is said to possess the laxative properties, without the nauseous odour, of manna; and it has been employed in medicine, in doses of one or two drachms, as a mild pleasant laxative for children.

Physiological effects.—(a.) *On animals generally*.—In moderate doses manna is nutritive, and is greedily devoured by some animals. Thus Swinburn (*Travels in the Two Sicilies*) tells us that vipers and martens are very fond of it. In large doses it acts as a mild laxative. The dose for carnivorous animals is about two ounces dissolved in broth or milk. (*Moiroud, Phar-*

macologie Vétérinaire.) It is rarely given to horses, on account of the large dose required.

(b.) *On man*. It has an analogous operation on man—that is, in small doses it is nutritive, and in large ones mildly laxative. It acts on the bowels without exciting irritation, and is therefore admissible in inflammatory cases. It is apt, however, to produce flatulence and griping. The fresher and less changed the manna, the feebler are said to be its laxative powers; and hence the Calabrians are enabled to use it frequently as an article of food. When by keeping and partial decomposition it has acquired an increase of laxative powers, it is less easily digested, and is more apt to excite flatulence. Hence also, we are told, the commoner kinds of manna are more laxative and more apt to disagree with the stomach than the finer varieties. The older writers imagined that manna promoted the secretion of bile.

Manna approaches tamarinds as a laxative, but it is more nutritive and less refrigerant, in consequence of possessing more mucilaginous and saccharine matter, and less free vegetable acids.

Uses.—It is employed as a laxative, partly on account of the mildness of its operation, partly for its sweet flavour. Thus it is admissible in inflammatory affections of the intestinal tube, especially of delicate persons, as females and children. On account of its sweetness, it is frequently added to flavour purgative draughts, and is used as a common laxative for children, who readily eat it.

Dose and administration.—For adults, the dose of manna is one to two ounces; for children, one to three or four drachms, according to the age. A good mode of administering it to the latter is in substance; or it may be given in solution. There is no officinal preparation of it, but it enters into the composition of the *confection of cassia* and *syrup of senna*.

ABSTRACT

OF

LECTURES DELIVERED BEFORE THE COLLEGE OF SURGEONS,

In April 1837,

BY PROFESSOR STANLEY.

LECTURE II.

ON THE ORGANIZATION AND ECONOMY OF
BONE.

In the beginning of the first lecture Mr. Stanley had pointed out, as rendering the

consideration of the osseous tissue peculiarly interesting, the intimate relations which it stood in to the other parts of the body, which had made it capable of forming the ground-work of one of the principal divisions of the animal kingdom, and with its indestructible character had constituted it one of the best guides in tracing the revolutions which the condition of our globe has undergone.

Daubenton, as we find from the *éloge* pronounced by Cuvier, first conceived the plan of determining by the examination of separate bones the characters of the rest to which they must have been adapted, and so of discovering the species of animal to which they had belonged. Thus he was enabled to contradict the fables of the previous existence of giants, which were constantly renewed on the finding of the bones of any of the larger animals. Among some of these that there were brought to him, he detected the bone of a giraffe, although he had never seen a specimen nor even a plate of that animal; and the accuracy of his diagnosis Cuvier was enabled to confirm by the first specimen of that animal which was brought to the Jardin des Plantes. Hence, though of course often inaccurate in his applications, Daubenton may be said to have been the founder of that beautiful superstructure which his pupil afterwards raised, and which enabled him, from the inspection of a single phalanx, to determine the species and characters of the animal to which it had belonged.

In no tissue of the body can we so well observe the processes going on in health or disease as in bone—in none other can we so clearly find evidence of the constant change of particles which constitute the function of nutrition; and for this reason doubtless it was that Mr. Hunter selected the bones for the performance of his experiments illustrating this subject. It is the same with diseases; and from this circumstance we are less surprised that those of the bones should have comprised, at the time of his death, more than one third of the pathological series in his museum. With these bones of a lion [which were exhibited] before him, he pointed out the increased thickness and density of their walls, and remarked on it, that formerly this would have been pronounced caries; and there can be little doubt that before his time every surface of bone which presented roughness and irregularity was called caries, and that every tumor of bone received the still more mystifying appellation of *spina ventosa*.

In the second lecture, the Professor stated it to be his intention to consider the healthy organization of bone, selecting from each of the three principal divisions—the structure, the formation, and the

growth—those points which might be best suited for their illustration.

Structure of bone.—Bone may be defined to be a hard, organized, and living substance, found only in the vertebrate animals. From this definition, tooth, horn, nail, and shells, are excluded, being all extra-vascular, and not organized nor living. From the whole mineral kingdom three substances are taken to form the solid framework of animal bodies—viz. silex, as found in the fine and sharp spiculæ in the sponges,—carbonate of lime, as presented in the corals and molluscular shells,—phosphate of lime, which predominates in the skeletons of Vertebrata. The adaptation of the relative distribution of the two latter in the skeleton to the firmness and strength necessary for the purposes it has to perform, is evident; and accordingly phosphate of lime, which forms the hardest compound with animal matter, is that which is selected for the skeleton of Vertebrata.

Bone is not only the hardest—it is the least perishable of the animal tissues, preserving, when free from moisture, its animal matter unchanged for ages, as shown in the fossil teeth of the elephant, which become black when burned, by the charring of their animal constituents, by the nutritious jelly which the bones of the mammoth of Ohio furnish, and by the appearance of this rib from the body of a mummy, which was brought me from an Egyptian tomb at Memphis. After having abstracted the earthy matter by dilute muriatic acid, there remains an elastic flexible substance, precisely similar to the cartilage left from the rib of an individual dead but a month since, when similarly treated. These observations, however, are not recent discoveries: Mr. Hunter has left a series of thirteen specimens in which the earthy matter has been abstracted from the fossil bones of elephants, to show the animal matter they still contain.

When bones are withdrawn from the atmosphere, but are still exposed to moisture, they undergo a slow decomposition, as described by Fourcroy and Vauquelin in the *Annales du Museum*. In examining the tombs of the early Kings of France at St. Genevieve, the bones, which had lain there for seven centuries, were found fragile, and of a beautiful purple colour, while between their layers was a multitude of white and brilliant crystals, consisting of phosphoric acid, lime, and a little magnesia,—in fact, the earthy salts of the bone, which, after their separation from the animal matter, had crystallized upon the surface and between the laminae.

Notwithstanding the labours of Mr. Hatchell, opinions still differ as to the

nature of the animal matter found in bone,—some stating it to be albumen, others gelatine, others a mixture of both. The existence of gelatine, in large proportion, is certain. According to M. D'Arcet, 15 parts of the bones of oxen will yield 6 parts of highly nutritive jelly, besides a quantity of fat, which may be used as lard. The analyses made by Berzelius, too, show that in its animal matter gelatine greatly predominates, and, indeed, that it is wholly composed of that substance, with the exception of a small quantity of fibrous matter, which probably proceeds from the vessels ramifying in it. [A large piece of jelly, obtained from bone by boiling the cartilage after the removal of the earthy matter by acids, and then filtering the solution, was exhibited].

The most common mode of removing the animal matter from bones is by calcination; but a more satisfactory and neat method is by boiling them for several hours in a solution of common pearlash. The effect of this is to make the bone of a chalky-white colour, without lustre, and very brittle; while the cohesion of its layers being destroyed, they will easily peel off from each other. In this state some animal matter is probably still left; for if the boiling be carried further, the particles will separate, and the whole bone crumble into minute fragments. It has been asserted that the relative quantities of the two salts of lime differ in the long and short bones—the phosphate predominating in the former, the carbonate in the latter. Dr. Bostock, whose attention was requested to this point, does not find any such difference, but is disposed to think that the difference in their density depends on the relative quantities of animal and earthy matters generally, and not on the proportions of carbonate and phosphate of lime.

To determine the arrangement of the compound of animal and earthy substances, bones may be dissected as satisfactorily as any of the softer tissues. When the earths are removed by acids, layers may be easily peeled off from its hard external surface; or when the animal matter is removed by pearlash, laminæ may be chipped off with the edge of the nail. It is therefore certain that the external part of the walls of a long bone is disposed in layers; but as the examination is carried deeper, it becomes impossible to split it except into fibres, which are short, and have various directions. Next, if the dissection be continued towards the medullary canal, the fibres are found separated by gradually increasing spaces, till in the very centre nothing is seen but a few scattered filaments, irregularly interlaced, and serving only to sup-

port the delicate medullary membrane containing the marrow. It is true the whole bone may be split into fibres, so as to form a kind of tassel (as in the specimen exhibited), but these fibres are on the outside of the walls, arranged in distinct layers: as we proceed inwards, they become interwoven in a more and more complex manner, and in the middle they constitute a reticulated structure. This view (of which diagrams were shown) settles the disputed question as to whether bones were laminated or reticular. It is certain that both forms exist in the same bone; both laminæ and fibres may be shown by the means mentioned, and by prolonged maceration and dissection the whole tissue may be reduced to a network of fibres. The end which this distribution of the compact and cancellous structure is intended to serve, is of course, as far as possible, a union of lightness with the form, size, and strength necessary for the purposes the bone has to accomplish. We may often notice, too, a peculiar arrangement of fibres to serve this end, as in the neck of the thigh-bone, in which a vertical section displays a greater density and thickness of the walls on the concave than on the convex side of the arch,—the layers and fibres curving from the opposite walls, and decussating in the middle and towards the base of the neck, forming a series of Gothic arches at the part where the principal weight of the body falls, and which is supported additionally by the firm texture of the trochanter minor as a kind of buttress.

The principle which must regulate the structure in the different orders of animals is, that the relative proportions of earthy and animal matter are arranged in exact adaptation to the strength and resistance required in each class. Hence, as Aristotle had remarked, in his *History of Animals*, the larger and more violent, the Carnivora and Ruminants, have the densest and strongest bones, though the bones of birds are still harder; doubtless to compensate for the weakness which they would have if, with their large air cavities, the structure had been as in other animals. Next to Birds are Mammalia, in the hardness of their bones; then Reptilia, Amphibia, and Fishes, in regular course in the zoological scale: here the organic material considerably predominates.

In reference to the organization of bone, it may be regarded as highly vascular. Injections demonstrate the supply of blood to both the compact and cancellous structures, though it is least to the former. This, too, accords perfectly with the observation of pathological phenomena, which prove that the compact structure possesses less of vital power than the can-

cellous, being much more prone to necrosis, while the cancellous structure is more commonly the seat of the peculiar alterations of texture and morbid deposits so frequent in bone. Both, however, exhibit great vascularity in the formation of granulations. From them, as from the soft parts, these new formations shoot up, as Mr. Hunter has shown in three specimens; and in the osseous, as in other tissues, he has exhibited what is now well known, viz. the greater vascularity of newly-produced parts, as in recently-united fractures, where the fresh bone is more vascular than that which is formed either above or below it.

The vessels of bones are derived from two sources—from the numerous minute branches which pass through the periosteum, and which may be called periosteal arteries, and the distinct artery which penetrates the walls of all the long and many of the flat bones, and which is called the medullary artery, from being supposed to be the peculiar nutrient vessel of the medulla. Many points respecting this last artery have not been sufficiently illustrated. There is no uniformity in its arrangement or presence in different subjects. Of sixteen thigh-bones, nine presented two large holes; six but one hole; and in one no hole for its transmission was discoverable. In the humerus its distribution seems more regular; four out of five specimens shewed one aperture, and the other had two. In four ulnæ, all had single and regularly-situated apertures. In four radii three had single apertures, variously situated, and one had two. In the tibiæ examined there was regularly one aperture, and this always in the same place. In the fibulæ there were sometimes one, and sometimes two. In the full-grown foetus three or four large holes are met with in many of the bones, of nearly equal size, and probably all transmitting vessels. [Specimens illustrating all these points were shewn.]

The artery usually passes very obliquely through the wall of the bone before it divides, to prevent (the first Monro supposed) the bone from being weakened. On entering the medullary canal it continues the same oblique direction as it had in the walls, and gives off a multitude of branches as it proceeds to the surrounding membrane. The uniformity of its direction has induced the supposition that it might be designed to facilitate the passage of the blood; but it is accompanied by the vein, and the arrangement which helped the flow of blood in the one would obstruct it in the other, while, of the two, the vein should rather need assistance. Mr. Owen examined the skeletons in the museum of the Jardin des

Plantes, at Paris, and found that in mammalia the femur presents many instances in which the course of the medullary artery is the same as that in man, and many where the contrary holds. The tibia and the humerus almost constantly present the same direction as in man. In the radius and ulna of many mammalia, the canal runs in an opposite direction in one to that which it has in the other,—as, for instance, in the kangaroo, dog, wolf, sloth (two-toed and three-toed), great ant eater, and tapir [of all which specimens were shewn]. In birds the canal is formed in the long bones, and is generally of very large size, especially in the ostrich, and even in those which contain no medullary matter. In the reptiles it is again found very distinct, though they also have no medullary tissue. In many instances the canal passed transversely through the wall, and not obliquely as in man; [of these also preparations were shewn].

The branches of the medullary artery are proved to communicate freely with those of the cancellous texture, by the occasional obliteration of the medullary canal in well-nourished bones, by the ease with which all the tissues of the bone may be injected, after either the medullary or the periosteal arteries have been divided, as shewn by experiments which Mr. Stanley had made, and by taking a bone from a subject recently dead, sawing it across, and stripping the periosteum for a short distance up from the end, and pressing the end of the thumb into the medullary cavity, when blood will be seen issuing from the vessels on the surface, forced from the branches of the medullary artery into those derived from the periosteum.

But the name of medullary artery is misapplied to this vessel, which has important relations to the original formation and subsequent development of the bone. Scarpa says it is visible in the chick on the eleventh day of incubation, when ossification is just commencing, and no medullary cavity exists. M. Berard has observed a relation between the direction of the principal branch of this artery and the comparative period at which the two ends of the bone attain their full development, and says that that end to which it is directed always has the shaft and the epiphysis first consolidated: for example, that in the humerus, where the artery runs downwards, the distal epiphysis will be first united; in the radius and ulna, where the canals go upwards, the humeral end will be consolidated before the carpal, and so on. With this may be connected the obvious passage of branches from the shaft to the epiphysis. Mr. Curling has noticed the influence of the situation of the medullary artery on the union of fractures,

and the subsequent appearance of the bone, stating that as, in every fracture, one portion must receive by this vessel a larger supply of blood than the other, which, deprived of this vessel, is unfavourably placed for union, a difference of the strength of the two portions may always be observed after union; and that from which the medullary artery is removed will always be found more or less atrophied, as evidenced by thinning of the walls and enlargement of the cancelli.

On the whole, the medullary and periosteal arteries of bones may be looked upon as forming but one system of vessels, which, by their free communications, maintain an active circulation through the tissue. To this activity, indeed, some pathological facts may be referred. One variety of pulsating tumor, originating in bone, commences in aneurismal dilatation of its vessels, and the frequency of vascular growths, and of malignant and fungoid diseases, originating in the vessels of bone, and especially the specimen exhibited, which, with fungoid disease of the lower part of the femur, shews the commencement of the same disease in simple increased vascularity and ecchymosis in the substance of the corresponding tibia,—all tend to prove a high degree and considerable vigour of vascularity in this tissue.

The veins in bone may be readily demonstrated, and the canals which contain them shewn by gradually removing portions of bone with a file, till they are exposed as in the skull exhibited. They are said also to contain numerous valves.

It cannot be a question whether bone is among the sensible parts of the body. Through the kindness of Mr. Swan a specimen was shewn, in which a nerve was clearly seen entering the substance of the bone of a large animal. When a portion of bone has been exposed by external violence, granulations may be seen shooting from its centre, quite unconnected with the surrounding soft tissues, and yet exquisitely painful when touched. The diseases of bone, too, and the peculiarity of pain by which they are accompanied, the tenderness of inflamed bone, and, above all, the extremely sensitive fungus which sometimes grows from the medullary cavity after amputation, all confirm beyond a doubt the sensibility of this tissue. Further, it appears that the degree of sensibility varies in different parts of the same bone; it is considerably the most exalted in the shaft, and, indeed, we might have expected that the heads of bones would concur in this respect with the rest of the structures composing the joints, whose obtuseness of sensation is well known.

The naked eye, however much assisted by injections, macerations, &c., is suffi-

cient only in part to unveil the structure of bone, and the microscope becomes necessary to detect its more minute arrangement. We know that there are laminæ and canals, but we are interested to determine how the former are united, whether by minute processes performing the office of nails, as Gagliardi of old supposed; and how the latter are arranged,—whether there be but one series of them for vessels, or many for vessels and medulla.

To illustrate these points Dr. Arthur Farre was requested to examine numerous portions of bone, and the results obtained by him (which agree essentially with those of Müller and other German physiologists) were presented, with the drawings which he had made, by means of the camera lucida. By these were made more clear the several laminæ covering the outer surface of the long bones, and the reticulated structure of the cancellous tissue. Six of the former could be counted in the middle of the shaft, but only two near the articular end of the tibia. In more highly magnified views there were shewn, in transverse sections of long bones, numerous minute apertures arranged in the compact tissue, somewhat concentrically round the medullary cavity, and in the greatest number near to it. These were surrounded by very thin concentric laminæ of bone, forming canals running longitudinally in the axis of the shaft, occasionally branching and joining those adjacent, so as to connect the larger layers before described as visible with the naked eye, and easily demonstrable in softened or calcined bones. In injected bones it was made evident that these canals contained minute vessels, by the points of coloured injection which were seen only in them; and it appeared that vessels entered into them both from the periosteum and medullary membrane. These minute concentric layers (which are not discoverable in the fœtal bones) are traversed by minute radiating fibres, and thus present a marked resemblance, in miniature, to the layers of wood and the medullary rays observed in trees. Is it not probable that the radiating fibres serve at least one of the purposes ascribed to the medullary rays, that of firmly holding together the concentric layers, and that the two together may be for the purpose of protecting the vessels, which seem only in part to fill them, by intercepting the progress of shocks and vibrations, to which the bones are so liable, and which might otherwise disturb the regularity of the circulation in the tissue?

Formation of bone.—The earliest rudiment of the osseous system is a mass of jelly, pervading the parts which the skeleton is afterwards to occupy, having a

definite form, but as yet undivided. This unarticulated groundwork of the skeleton gradually changes into cartilage, which is divided according to the several bones which are to be formed. It has been questioned whether in some cases, as in the bones of the skull, the formation of cartilage precedes that of bones, or whether the deposition of both is not coincident; amongst others, Burdach inclines to the last of these opinions, and the examinations which Mr. S. has made to detect cartilage in the arch of the skull before the formation of bone, having been unavailing, he agrees with those who support this view.

It was long ago remarked that the appearance of blood-globules in the cartilages was the first indication of the commencement of ossification, and Dr. Nisbet affirmed that he had detected the gritty particles in the vessels even before their deposition. Ossification cannot be considered to be the result merely of the attraction of the earthy matter from the blood by the cartilage. It is not so simple a process as this would suppose, but a compound of constant secretion and absorption, like the nutrition of all soft parts. For every particle of osseous matter deposited, a particle of cartilage is removed; nay, more, the animal matter of perfect bone is chemically different from that of unossified preparatory cartilage, and from a solid mass of cartilage there is formed a bone of varied structure, in part compact, and in part reticulated. That the characters of foetal cartilage are different from those of the animal matter of perfect bone, as noticed by Burdach, is confirmed by examinations made by Mr. Griffiths. Portions of the former were boiled for many hours on each of several successive days, but nothing was dissolved from them; a tough elastic substance still remained. In an ossified thyroid cartilage, and an ossified rib, treated in the same way, the results were the same; very little animal matter was dissolved by boiling, after the earthy matter had been removed by diluted muriatic acid.

When an articulation is to be formed between two bones, the ossification is not continued completely to the end of the cartilage, but the last layer of it being left constitutes the articulating cartilage, as observed in development by direct observation, and confirmed by the identity of composition of foetal cartilage, and of that covering the articular ends of bones, as may be seen by comparing the analysis of the former by Mr. Griffiths, and of the latter by Berzelius.

The spirit of generalization carried somewhat too far has induced some

authors to imagine that all long bones, as well as all the other organs, are formed in two lateral halves, which subsequently unite. This, however, is certainly erroneous. Long bones begin to ossify in rings, and, as Dr. Nisbet long ago remarked, in his *Human Osteogeny*, the circumference of a long bone, when not larger than a small pin's head, has the form of a broad and flat ring.

Growth of bone.—Of all the tissues of the body, the osseous is that which presents the most favourable opportunity for observing the process of growth, admitting of experiments which it is impossible to perform elsewhere.

Mr. Hunter, in his *Lectures*, observes that "bone does not grow in all its parts; that it does not grow by the addition of new particles among those already arranged, or in their interstices, but by the addition of parts lengthways, or sideways of the bone:" that he had proved this by "boring holes in the bones of young animals, and fixing pieces of leaden shot in them; and that on killing the animals some time after, although the bones had considerably grown, the holes were exactly at the same distance from each other." This statement, published by Sir Everard Home, in the *Transactions of the Society for Promoting Medical Knowledge*, has always been regarded as announcing Mr. Hunter's opinions on the point. But in the Museum there is the bone of a fowl which he had experimented on, and the memorandum placed in the bottle, and copied into the catalogue, says, "The left tarsus of the domestic fowl, upon which the following experiment was performed. Two small holes were made by cauterization near the extremities of the bone, the length of the bone being at that time two inches and ten lines, and the distance between the holes one inch and eight lines. After a certain period the animal was killed, and the length of the bone was found to be three inches and seven lines, while the space between the holes was one inch and eleven lines;" therefore an addition of three lines had taken place in the space between the holes, which must have been effected by the introduction of new matter into the substance of the bone. Mr. Hunter was perfectly correct as to facts, though his knowledge of the mode of growth was not sufficient to enable him to reconcile their discrepancy; and his commentators have been wrong in not taking into account all that he had by experiment ascertained, and in not comparing his with another series of experiments by Du Hamel.

This author says, that in numerous experiments he *sometimes* found in the very young animals an addition to the centre,

but that later in life the addition is made entirely at the ends of the bone. Taking these results and Mr. Hunter's together, it is evident that new matter is not added solely to the extremities, though it is chiefly. Mr. S. repeated the experiments several times on young dogs, and from his results, which generally agreed with those of the two authors already quoted, he can state, that the increase of the thickness in bone is as Mr. Hunter taught, by the deposition of new matter on its surface; for a piece of metal fixed in the wall soon becomes completely imbedded in it by new matter growing over it, deposited probably by the vessels of the periosteum. The increase in length had always taken place at the ends, for in no case had the distance between the perforations made near the middle increased. (In Du Hamel's experiments on *very* young animals, there *sometimes* was some increase here also). The increase in all Mr. S.'s experiments was found to be at the distal end; in Du Hamel's chiefly at the proximal; the former were made on dogs, the latter on lambs and pigeons.

The enlargement of the medullary canal is clearly the result of absorption proceeding concurrently with external deposition; for the foreign body placed in the walls sometimes is found loose in the medullary cavity, as shewn in one of Mr. Hunter's preparations. The experiments with madder indicate the same fact. The plates in the catalogue of the physiological series shew clearly the deposition of the new and coloured osseous matter to have taken place at the surface and ends of the bone [as seen in the original drawings, which were exhibited.]

Much value has been placed on these madder experiments, but in some measure undeservedly. They shew the mode of growth of bone, but they will neither explain the minute organization nor the constant change of particles taking place in this tissue. For, first, it is impossible to find what is the precise seat of the colouring matter—whether it has combined only with the osseous corpuscles or with the animal matter. Dr. A. Farre's examinations on this point, though very carefully made, were incapable of deciding it. Nor will softening by acids in any way help us, for the action of the acid gives a black hue to the whole, which renders it still more obscure. And as regards the second point, it appears from the experiments of Berzelius and Mr. Gibson, of Manchester, that there is not only a great affinity between the colouring matter of madder and phosphate of lime, but also a still greater between it and albuminous fluids, as serum: consequently it is only when the serum is supersaturated

that it imparts its superfluous madder to the phosphate of lime; and when by the excretions it has become in some degree purified from it, it again absorbs what it had laid down. The particles of phosphate of lime may, as far as this experiment teaches, have remained in the same places, though by the addition and abstraction of madder their colour had been changed. For this idea, too, the rapid colouring of the whole osseous system speaks: it is scarcely probable that in seven days, which is all the time necessary, all the osseous particles could be changed, seeing how slow all the other processes in bone are. Still, there are objections to this theory: if the serum circulating through the bone imparts to the phosphate of lime its superfluous colouring matter, why is it that in growing bones, when madder has been given for a short time, only the last layers are coloured? and why, when it has been alternately administered and left off, are there concentric rings of red and white formed?—The subject must be left as in some degree still undecided.

What has been said of the growth of bone at the ends, explains in some measure the formation of epiphyses, which we may presume to be for the purpose of admitting this mode of increase without any risk of having the shape of the articular cartilage altered. So, too, of the epiphyses serving for the attachment of muscles which would have been interfered with had their surface constantly changed its place with the growth of the bone. Vessels pass from the shaft to the epiphysis, and the end of the former is covered by a number of small eminences, not unaptly called osseous cotyledons, which are received into corresponding depressions in the latter. The strength of the connexion between the shaft and epiphysis is principally derived from the periosteum, which is continued from one to the other; but this, though considerable, is less than that of the capsules of the joints: hence dislocation is less common in the child than separation of the epiphysis from the shaft.

Bones, like soft parts, undergo alterations in advanced age: they waste, and become atrophied from less active nutrition. In the long bones of old people, the walls become thin, the cancelli wider; and this being remarkably the case in the femur, is the cause of its frequent fracture. In the flat bones, the cancellous texture almost entirely disappears, the walls become approximated, and, as in the pelvis and skull, we find but one thin plate of bone. Often, too, they become thinner: the skull is nearly as thin as paper, and in the ilium even apertures are formed. Their texture also is remarkably changed.

Two conditions whose distinctness has not yet been pointed out are met with. In those (especially females) who have been long confined to their beds, they are found soft, often may be cut with the knife, and their texture is so loosened that they may be easily split into layers and fibres. Their substance is infiltrated with a large quantity of oil; and this, when extreme, certainly constitutes one form of mollities ossium. It has been said that they contain more marrow; perhaps they do, but this is only in proportion to the increased development of the cancelli, which must be filled by it. It is certainly more fluid, and has the form of oil, filling not only the cells, but infiltrating the whole substance. In the other condition occasionally found in advanced life, they are comparatively denser, harder, more compact, and less greasy, so that after very little maceration they become quite dry. This may be the result, not of increase of earthy matter, but of the absorption of the animal matter, which effects that at the same time that the bone becomes denser, it is lessened in size, which is a change we find coincidently with the increased hardness.

To consider, in conclusion, some of the mechanical and vital properties of bone: that they possess a certain degree of elasticity is certain; a thin slice will bend, and recover itself when the force is remitted,—and this quality, dependent on the animal constituent, is greatest in early life. The bones of an infant bend and recoil; and in life, when bent by external force, will in time recover their figure by their elasticity. But some phenomena referred to this principle might often be more properly ascribed to their vital properties, by which they with other parts are made to be adapted to modifying circumstances. For instance, the orbit diminishes after extirpation of the eye, and articular cavities in unreduced dislocations. These should be regarded as the result of a remodelling of the part, in obedience to the principle of adaptation just mentioned. They are of uncertain occurrence, which would not be the case were they merely mechanically produced. The skull of a female was shewn, in whom the eye had been extirpated twenty years before death, but where the orbits were of exactly the same size; while on the other hand, in a case at which Mr. Stanley had assisted, the sinking of the orbital plate, after removal of the eye, had been so great, that a concavity instead of a convexity was formed for the anterior cerebral lobes to lie upon.

Their vital properties have mostly been already mentioned in considering their

formation, growth, changes, &c. Habits of life often produce remarkable alteration. Hence in females accustomed to hard labour, they assume the prominences, strength, and roughness of those of the male. Inactivity of function at any period of life is followed by atrophy of them, as of the softer tissues. Thus, those of paralysed limbs may become much smaller, and have their walls thinned, as Mr. Chelsden has related in the case of a soldier who was wounded in the groin many years before death, and in whom the femur of the injured side was one-third less than the other. Lobstein has related an analogous, but still more marked case, and similar changes take place in cases of ununited fracture. In a thigh which had been amputated at its middle, the remaining portion, which had been inactive for above a year, was found very slender, its walls thin, but its texture quite sound. Several specimens illustrating the point were also exhibited from the museum of St. Bartholomew's Hospital.

DR. HAMILTON ON THE FIRST STAGE OF LABOUR.

To the Editor of the Medical Gazette.

SIR,

IN the number for March last of the Dublin Journal of Medical Science, there is an article by Dr. Collins, lately Master of the Dublin Lying-in Hospital, objecting strongly to certain doctrines contained in my late work, entitled *Practical Observations on various subjects relating to Midwifery*; and with your permission I shall offer, through the medium of your valuable publication, some remarks tending to shew that Dr. Collins has misunderstood or misrepresented, of course unintentionally, my opinions on some important practical subjects, and to establish the correctness of the practice which I have recommended.

Before proceeding to this task, however, I feel it necessary, as it has been alleged that some of my opinions are *dogmatical**, to state very briefly the circumstances which have enabled me to suggest and to recommend certain innovations in the practice of midwifery. In doing this, I act only on self-defence, though I am aware that I subject myself to the imputation of egotism.

From the year 1787 till the year 1802, I had the superintendence of al-

* Dr. Collins's Observations, page 40, line 11.

most all the difficult cases of labour which occurred in the lower ranks in this city, and through my father, I had an opportunity of knowing the circumstances of almost all the cases of difficulty which happened during the same period among the higher ranks. It is well known also, that since the establishment of the Edinburgh General Lying-in Hospital, in 1793, I have had the chief charge of that institution, and although it is upon a scale quite inconsistent with the extent of our population, yet 15,936 patients were delivered by the medical attendants of the hospital previous to October 1st, 1836. I am entitled to add, that since the year 1798, besides having enjoyed extensive private practice amongst the more opulent inhabitants of this city, I have had annually the charge of numerous patients from distant quarters (several from Ireland), whose cases were supposed to be difficult or dangerous.

These circumstances have given me opportunities of practice which can probably never again fall to the lot of any individual. In submitting, however, to the profession, in my two volumes of Practical Observations, the result of that experience, I have stated (in my Preface), that I am ready to explain any part of my doctrines which may appear obscure, and to vindicate any part which may be called in question by practitioners of respectability.

Dr. Collins's strictures in the Dublin Journal referred to, are entitled, "Observations on the Artificial Dilatation of the Mouth of the Womb during Labour, and upon Instrumental Delivery, &c., &c.;" and they are professedly brought forward to controvert some of my doctrines. In the present communication I shall confine myself to what Dr. Collins has called "the Artificial Dilatation of the Womb," by which, I presume, he alludes to my directions for the management of the first stage of labour.

With much regret I have to declare my conviction, that Dr. Collins has either misunderstood or misrepresented, unintentionally of course, my opinions on this subject. The very title of his paper bears evidence of the fact. By the expression, *Artificial Dilatation of the Os Uteri*, is plainly implied its dilatation by *mechanical means*; and, accordingly, in certain cases of hæmor-

rhagy in the latter months of pregnancy, the whole profession agree on the propriety of mechanically dilating that orifice. But in my directions for the management of the first stage of labour, the innovation which I have insisted upon, is *the securing or promoting that preliminary process to the advance of the infant, within twelve or fourteen hours from the actual commencement of labour, provided labour throes continue to recur regularly.*

The misunderstanding or misrepresentation of my opinion on this practical point by Dr. Collins, cannot be rendered manifest without a reference to the reasons which originally induced me to adopt it.

For nearly fifteen years I ascertained (or supposed that I had ascertained) that in all cases of *tedious* labour, where there was no actual disproportion on the part of the mother (with the exception of monstrosity, or hydrocephalus, or wrong position of the infant), the most frequent cause of the increased sufferings of the patient was the undue protraction of the first stage, and I became quite convinced that the effects of that protraction were the following. (Part I. p. 192.)

Firstly, That the powers of the uterus may be inadequate to expel the infant with safety to its life, or to the future health of the patient.

Secondly, That after the birth of the infant, the uterus may contract irregularly, so as to occasion the retention of the placenta.

Thirdly, That, after the expulsion of the placenta, the contractions of the uterus may be too feeble to prevent fatal hæmorrhagy. And,

Lastly, That, supposing the patient should escape all those untoward circumstances, febrile or inflammatory affections of a most dangerous nature may ensue from the previous protraction of pain, and the irregular distribution of the blood.

In other words, my conviction was, that although there be no injurious pressure upon the person of the infant, nor on that of the parent, the protraction of pain from uterine contractions, above a certain number of hours, must occasion more or less exhaustion, both of the sensorial and of the muscular powers, and must necessarily influence the subsequent process of delivery.

Having had the charge of patients of all ranks*, I was led to consider twelve or fourteen hours protraction of the first stage (regular pains continuing), as the average limit which it was prudent to adopt, for in a great proportion of the cases in the lower ranks, the natural powers complete this part of the labour within less than that time; and according to my observation, the constitutions of individuals in the better ranks could not bear, with impunity, muscular exertion, pain, and sleeplessness, for above twelve or fourteen hours.

So anxious was I to guard against all misunderstanding upon this point, that I expressly stated two exceptions to the general rule.

Of these the first is in the following words:—"It sometimes happens, that after regular pains have commenced, the agitation of the patient, or the mismanagement of the attendants, occasion a suspension for some hours. If there be no injurious pressure upon the passages during that suspension, the patient's strength is recruited, and the duration of the first stage is to be reckoned from the recurrence of the pains."—Part I., p. 195. It is quite clear from these words, that in general the exhaustion of the patient's strength is the consequence of the protraction of the first stage, which is to be chiefly dreaded.

The second exception is of an opposite description. It relates to cases where the liquor amnii is discharged before the labour pains commence, and where, of course, the uterus is brought into close contact with the person of the infant. For the management of such cases I have given (Part I., p. 25) the following directions:—

(1.) "Many respectable practitioners recommend, that where the liquor amnii is discharged without previous pains, the abdomen should be firmly compressed by means of a roller, in order to secure the complete discharge of the water, and to accelerate the accession of labour throes. But unless under particular circumstances, viz. where the patient's health had been previously in a precarious state, the author never has sanctioned such means."

* For the first twenty years of my practice, a considerable proportion of those in the better ranks here were attended by female practitioners, and not unfrequently were allowed to have been three, or even four, days in continued labour before my assistance was required.

(2.) "When the pains take place, if the dilatation prove tedious, that is, if the continuance of strong pains for six or eight hours do not advance the dilatation to such a degree as to give reason to expect its completion within a few pains, it becomes necessary to interfere, lest the patient's health should suffer."

(3.) "Generally speaking, venesection to the extent of from sixteen to twenty-four ounces by weight, furnishes the readiest means of promoting the dilatation. But cases from time to time occur where the patient cannot bear the subtraction of blood, and where it becomes necessary to administer an opiate enema. There are also cases where supporting the os uteri during a pain is indispensable."

It must be evident, that if the waters which surround the infant be discharged before any dilatation of the os uteri, the continuance of uterine contractions beyond a certain time may, by pressure on the umbilical cord, destroy the infant, or may rupture the uterus, or may greatly exhaust the strength of the woman, for it is well known that uterine contractions are much more violent after than before the rupture of the membranes.

By some extraordinary misapprehension, Dr. Collins has represented this exception as my general rule for the management of the first stage of labour, for he has culled out paragraph No. 2, totally suppressing paragraphs Nos. 1 and 3, and thus has completely perverted my meaning.

That my doctrine on the management of the first stage of labour might be fully understood, I have explained minutely (Part I., p. 211) the causes of the protraction of that stage, stating them to be,—*First*, Premature discharge of the liquor amnii. *Secondly*, Natural toughness of the os uteri. *Thirdly*, Contraction of the cervix uteri, in consequence of an undeveloped band of fibres. *Fourthly*, Great relaxation of all the parts lining the pelvis; and, *lastly*, The interception of a portion of the cervix uteri, between the presenting part of the infant and the bones of the pelvis. I may venture, by-the-by, to remark, that some of those causes were not previously explained to the profession.

As I have already alluded to the

practice where the liquor amnii is prematurely discharged, it is only necessary to state briefly,—that where the cause is toughness of the os uteri, I have recommended for ordinary cases, copious venesection, and for debilitated individuals, opiate enemata, remarking that spontaneous vomiting often quickly relaxes the os uteri, but that I had not ventured to prescribe nauseating doses in such cases. The means I have advised, where there is an undeveloped band of fibres of the cervix uteri, are venesection, opiate enemata, and afterwards pressure on the stricture during the pain. And for counteracting the effects of relaxation of the parts lining the pelvis, and of the interception of a portion of the cervix uteri between the infant and the bones of the pelvis, I have directed supporting the edges of the os uteri with two fingers.

In as far as I can judge, the arguments which Dr. Collins has urged against my practice are, that it is not pursued by the eminent practitioners in Dublin, London, and Paris, and that the result of the cases in the great Lying-in Hospital of Dublin, shews that the protraction of labour is not so injurious as I had represented it to be.

The former of those arguments is a most extraordinary one. If such a mode of reasoning were tolerated, there could be no improvement in practice. Till the publication of my *Practical Observations*, the most eminent practitioners in Dublin, London, and Paris, recommended confinement in the horizontal posture, and the use of pessaries in cases of prolapsus uteri. It may be asked, if any one has objected to the innovation in practice which I have so successfully pursued for many years in those cases on such grounds; has not the innovation been at once assented to, and cordially acted upon by every practitioner to whom it has been explained?

The probable reason why my practice in the management of the first stage of labour has not been hitherto adopted by the eminent practitioners in Dublin, London, and Paris, is, that it has been unknown to them. But Professor Burns, of Glasgow, whose talents and experience place him upon a level at least with any of the eminent practitioners of Dublin, London, or Paris, has zealously adopted and recommended

the very treatment which I had been teaching since the year 1800.

Within these twenty years, a number of gentlemen who had been in practice in different parts of the world have attended my lectures, and without an exception every one has assented to the importance of the rules I have suggested for the limitation of the duration of the first stage of labour, and many of them have candidly declared, that if they had been formerly acquainted with my opinion, they should have been spared much anxiety, and they could, on many occasions, have saved their patients much suffering.

Had the practice been fairly tried by the eminent practitioners of Dublin, London, and Paris, and had it been found by them to be unnecessary or hurtful, Dr. Collins might have been enabled to cite their authority against mine, but it is almost ludicrous to say, that because they have not had recourse to the practice, it must be erroneous.

Upon this point I cannot resist adding a conclusive argument. I have stated, (p. 194, Part I.) that since the year 1800, when I adopted and recommended the limiting the duration of the first stage of labour to twelve or fourteen hours, “no patient under my charge has been above twenty-four hours in labour, and excepting in cases of disproportion none so long;” but it consists with my own knowledge that many individuals in the better ranks in Dublin, London, and Paris, have been allowed to be in labour for two, three, and even four days and nights, and as several of those patients were afterwards under my care, I am quite certain that their sufferings in the capitals alluded to, had been owing chiefly, if not entirely, to the mismanagement of the first stage.

The second argument of Dr. Collins is much more plausible, though I think it is equally fallacious. It is founded upon the result of 16,414 labours which occurred in the Dublin Lying-in-Hospital, during the seven years of his incumbency.

Considering that the individuals who resort, in Dublin, and in France and other foreign countries, to lying-in hospitals are, generally speaking, robust hard-working women, it appears to me, that the information to be derived from a record of their cases is much more limited than Dr. Collins has supposed.

The proportion of cases where the infant is in the natural position—where the position is preternatural—where the after-birth is attached to the os uteri—where the umbilical cord is found coming down with the presenting part,—where there is plurality of children,—and the relative proportion of the sexes of the infants, may be fairly estimated by comparing the records of different hospitals. But the effects of the duration of labour,—the obstacles to the advancement of the infant,—the occurrences of convulsions—and of accidental hæmorrhagy, and of rupture of the uterus, or of the vagina, and other most untoward accidents, depend so much upon the previous health of the patient,—on the treatment adopted,—and on other incidental circumstances,—that no logical reasoner could place any dependence for accurate calculations upon such data. For example, in the Edinburgh General Lying-in Hospital, during a period of forty-three years, there have been only three cases of ruptured uterus; whereas in the Dublin Lying-in Hospital, during Dr. Collins's seven years' incumbency, there were thirty-four cases of that deplorable accident. This fact is stated in illustration of the proposition, and not for the purpose of imputing, in the smallest degree, blame to the medical attendants of that magnificent institution.

For these obvious reasons, I protest strongly against the inference which Dr. Collins and Dr. Murphy have deduced in regard to the effect of the protraction of labour in the Dublin Lying-in Hospital. My conviction is, as already stated, that, generally speaking, the pregnant women who resort to the Dublin Lying-in Hospital, and to the Lying-in Hospital of Paris, are much more capable of enduring with impunity a protraction of labour than women in the grades above them, reckoning from the wives of respectable tradesmen up to ladies of the highest rank. Indeed I have no doubt that the comforts provided for them in those great establishments, enable them to bear, without injury, a degree of protraction of suffering which would be most prejudicial if they had been confined to their own miserable dwellings, and left to their own scanty means of subsistence.

Even in the lower animals, the phe-

nomena of parturition are varied, according to the previous condition of the animal. In the Highlands of Scotland, cows bring forth with little difficulty or danger: but it is very different in the dairies in the neighbourhood of great cities. Dr. Bland received the following curious particulars from a person who had been many years employed in the nurture and management of cows at Islington, near London, and who had usually more than three hundred under his charge:—

“Many cows, he said, part with their young in the space of a quarter of an hour, but their labour is more frequently of the duration of two hours. In tedious and difficult cases, which in London, where the animals are over-fed, and made too fat, occur as often as once in six or eight labours, it is protracted from eight or ten hours to two days, or more. That these difficult cases happened not only when the calf came in a wrong position, but even when the presentation was natural.

“Cows are peevish and fretful as the period for calving approaches, refusing to be milked, or even not suffering any one to come near them. That they frequently suffer very severely during labour is evident, he said, from their countenance, which is suffused with tears, and from their groans, which may be heard at a great distance. In general, cows that are fat have more difficult labours, and are more liable to disease after parturition than those that are lean.”

If, therefore, the phenomena of parturition be influenced in the cow by the previous habits and feeding of the animal, even speculative reasoners would conclude that the same must happen in the human subject. Accordingly, every man who practises midwifery must admit the fact. Dr. Collins himself says, page 8, in allusion to the duration of labour, “Some will suffer more in thirty hours than others in ninety.” I must, by the way, remark, that I never saw, in the course of forty-nine years' practice, any individual who had been allowed to be NINETY hours in labour.

Again, therefore, I repeat, that Dr. Collins's inferences, from the apparent effects of the duration of labour in the Dublin Lying-in Hospital, do not in the smallest degree invalidate the inno-

vation in the treatment of the first stage of labour, which the experience of, I may say, forty years, entitles me to recommend.

I shall conclude this communication by quoting from Dr. Collins's Observations, (Dublin Medical Journal, page 58,) two consecutive paragraphs, which may perhaps surprise the reader as much as they have startled myself.

I have taken the liberty, in quoting these two consecutive paragraphs, to direct some of the words to be printed in italics, and others in small capitals.

"I have not entered into any detail of the measures recommended by Professor Hamilton *to effect the dilatation of the os uteri within a limited period*, as, DISBELIEVING in the UTILITY of the measures, it is unnecessary; for information on these points, the work itself may be consulted."

"In some instances, especially with first children, the mouth of the womb continues rigid and hot, with little tendency to yield under uterine action, accompanied not unfrequently with considerable irritation. In such, *bleeding to the extent of ten or twelve ounces*, and keeping the patient under the influence of slightly nauseating doses of tartar emetic (to which a small quantity of *opium* should be added) will be found to promote relaxation, and *thus be productive of the BEST EFFECTS*. In others, where a fold of the os uteri continues to be forced down before the head, anteriorly between it and the pubes, although elsewhere obliterated, the descent of the head will be *much facilitated by applying two fingers*, so as to keep it stationary during the pain, and *thus permitting the head to clear this obstruction*. Neither of these cases are often met with, nor have they any tendency to illustrate the opinions noticed; I make the observation here, having had PRACTICAL EXPERIENCE of the ADVANTAGE of the TREATMENT."

From these expressions, it is evident that Dr. Collins, now most reluctantly indeed, admits that it is sometimes necessary to interfere in the first stage of labour; that *venesection*, nauseating doses, and *opiates*, by *promoting relaxation* of the os uteri, are *productive of the best effects*, and that where a fold of the os uteri is forced down before the head, the descent of the head will be much facilitated by applying two fingers to the os uteri; and he adds, that these

directions are founded upon *practical experience*. If these be not the very measures, with the exception of nauseating doses, which I have suggested for certain cases of protraction of the first stage of labour, and against which Dr. Collins has so strongly objected, I do not understand the English language.

With an anxious wish to avoid saying anything to call in question Dr. Collins's experience of the utility of the practice detailed in his second paragraph, I beg leave to bring under his review, and that of the reader, the following most instructive and most melancholy case, recorded by himself, page 481 of his Practical Treatise on Midwifery:—

No. 1038. "This patient was admitted in labour of her first child. Uterine action was feeble, and continued so for seventy-two hours after she came in. As the foetal heart had ceased to act for some time, and the pulse became hurried, it was considered advisable to deliver her. The os uteri was not fully dilated, the head was high and rested on the pubes; it was lessened, and cautiously brought down with the crotchet.

"Severe abdominal inflammation set in shortly after delivery, which resisted the most prompt and active treatment, and proved fatal on the sixth day.

"On dissection, the intestines were found matted together, with an extensive deposition of lymph on their surface; there was also some sero-purulent fluid in the cavity of the abdomen. The uterus was coated externally with greenish lymph, and on its internal surface there was a coating somewhat similar in appearance. There was a very small opening in the lip of the uterus, so as to admit the point of the finger, and a second similar one in the vagina, about half an inch below the mouth of the womb.

"The pelvis measured $3\frac{1}{2}$ inches from pubes to sacrum, and $4\frac{1}{2}$ transversely."

The only remark which I shall offer upon this melancholy case is, that I presume that it was after its occurrence that Dr. Collins's *experience* led him to appreciate the utility of supporting the os uteri, where it is forced down before the head of the infant, which does not seem to have been attempted in the case in question, and which, in my humble opinion, would have much *facilitated the descent of the head*, and would have proved of such *advantage*, that probably

the lives both of the mother and of the infant might have been thereby saved.

In a future communication I shall reply, with your permission, to Dr. Collins's censures on my practice in Laborious Labours.

I have the honour to be, sir,

Your obedient servant,

JAS. HAMILTON.

Edinburgh, 23, St. Andrew Square,
May 25, 1837.

REMARKS ON A
CASE RECENTLY PUBLISHED IN
THE MEDICAL GAZETTE,

*From the Guy's Hospital Reports, entitled
"Pregnancy, with Imperforate Uterus."*

BY JOHN NORTH, F.L.S.

Lecturer on Midwifery at the Westminster School
of Medicine.

THERE are many cases on record in which the uterus has been supposed to be imperforate at the time of labour, even by able and experienced practitioners, when upon subsequent examination it has been ascertained that the os and cervix uteri had escaped detection in consequence of their mal-position; and in some of these instances, after delivery had been effected by making incisions into the uterus, by the performance in fact of the operation termed vaginal hysterotomy, upon the presumption that there was no os uteri, both the os and cervix uteri have been found in their natural situation and naturally constructed. I trust, then, I shall be excused if I venture to express some doubts as to the real nature of the case entitled "Pregnancy, with imperforate uterus," published in the Gazette. It does not appear, for no doubts or fears are expressed upon this point, that the probability of a mistaken diagnosis occurred to the minds of any of the gentlemen who conducted this case, and hence I am led to infer that the general examination of the patient was not so conducted as fairly and satisfactorily to lead to the inference deduced of so very rare an occurrence as the absence of the os uteri. The very expression employed in the report of the case, that "about the spot where the os uteri *should have been*," &c. implies that such a malposition of the os uteri as to prevent its detection by an ordinary examination was not thought of, although this was a

very probable explanation of the peculiarity of the case; the absence of the os uteri a very improbable one indeed. There are some circumstances connected with this case which I confess I cannot comprehend, and which seem to render the assumed fact of the uterus being imperforate scarcely conceivable. The complete closure of the os uteri must of course have taken place after conception, and as far as I know could only result from some disease, some active inflammation of the os or cervix uteri at some period of pregnancy, which in this instance could not have existed, inasmuch as it is stated that the patient "both before and subsequent to her marriage has had robust health." The doubts that have been expressed by the highest obstetrical authorities as to the fact of the absence of the os uteri in many of the cases in which this rare anomaly had been presumed to exist, apply exactly to this case, as far as can be judged from the report given of it. For example, Baudelocque asks*, "A quoi pourroit-on l'attribuer, (l'obturation de l'orifice de la matrice) chez les femmes où l'on a cru la rencontrer au moment de l'accouchement? à l'inflammation, sans doute, et à l'altération du col de la matrice. Mais rien ne fait présumer que chez elles de telles affections aient lieu pendant la grossesse." Desormeaux† says, "pour que l'orifice de l'utérus s'oblitére et s'efface pendant la grossesse, il faudrait qu'il se fût développé une inflammation assez vive, ce qui ne peut arriver que très rarement; or dans la plupart des cas on ne parle pas d'inflammation." Lastly, Velpeau‡ thus states his opinion upon the subject: "Il n'y a évidemment qu'une maladie grave, une inflammation aiguë, qui puisse fermer ainsi le sommet de la matrice entre la fécondation et le terme de l'accouchement. Dans ce cas, les parties sont nécessairement le siège d'alterations concomitantes propres à lever tous les doutes. Les signes anamnétiques auraient d'avance éveillé l'attention." In these quotations, I have taken the liberty of italicising the opinions of the distinguished writers which are directly opposed to the closure of the os uteri at the time of labour in a patient who "had not had a day's ill health," and who was always fit for an "unusual degree of laborious exertion."

* Journal Général de Méd. t. 52, p. 42.

† Dict. de Méd. t. 15, p. 190.

‡ Accouchemens, 2nde edit. t. 2. p. 216.

The report of the case states, that “for two or three days before labour came on, she noticed a rather copious reddish discharge that continually drained from her.” From whence, if not from the uterus, and through its natural opening, the os uteri, is it probable that this “rather copious discharge” proceeded?

The circumstances which led to the inference that this was a case of imperforate uterus, are these: the first gentleman who saw the patient “observed the pains to be very urgent and very powerful; but although he remained several hours with her, he had not succeeded in discovering the os uteri.” “Puzzled with this novelty (for he had attended a great number of confinements),” he sought for assistance. The reporter of the case attended. He “on examination, found a firm, uniform, globular mass forcing down into the vagina at every pain (which was of great force,) but no irregularity upon its surface could be detected; and a very careful examination of the entire vagina, whose extremity was easily reached at all points, failed in detecting the os uteri.” The patient was again carefully examined in the evening; still no os uteri could be detected. “At the upper part of the vagina, at each pain, there was forced down this tight, tense, globular body, of the bulk of the child’s head, and conveying the impression of an entire uterus without orifice. About the spot where the os uteri should have been was a minute portion, somewhat thinner than the surrounding parts, but the whole was uniformly smooth, and contained no break whatever. On the receding of the mass in the absence of a pain, something like a child’s head could be felt within.” Being now satisfied “that there really was no orifice into the uterus, and the existence of a living child being proved by the pulsations of the foetal heart,” Dr. Ashwell was consulted, and after “a most careful investigation, he confirmed the fact of there being no os uteri.” The state of the patient not appearing to admit of delay, an artificial opening was made into the uterus through which a living child was expelled. “Under the influence of a severe pain, the edge of the orifice tore suddenly towards the right side, and soon after, another rent took place. At this she became faint; the pulse was 140 or 150, feeble; the skin cold and clammy, and she fell exhausted.”

Stimuli were given, she rallied, and she ultimately recovered. The “robust health” she had always enjoyed was no doubt much in her favour. Nature had not disposed her to die from any trifling cause: all, too, that art could do was no doubt done.

In the estimation of the public the success of an operation justifies its performance, but an *imperative* necessity for it must exist to justify it in the estimation of the profession, and the question is, whether the operation was imperatively necessary in this case. Far be it from me to declare that it was not, but knowing how often errors have been committed under similar circumstances—knowing how difficult the diagnosis may be, and not finding any fears whatever expressed of the possibility of mistake—I confess I doubt. Notwithstanding the apparently strong evidence of there being no os uteri, and the very respectable authority that supports it, I am still inclined to believe the diagnosis was incorrect. The whole description of the case is exactly similar to many I have seen, and to still more described by various writers, where the os uteri could not be detected by any ordinary examination, or even by the introduction of the hand, until after many hours’ duration of severe labour pains, in consequence of there being so great a degree of anterior obliquity of the uterus as to throw the cervix and os uteri back towards the sacrum, or even above the sacro-vertebral angle. I confess that more than twenty years ago I was much perplexed by two of these cases that occurred to me. In the words of Velpeau, “I dreamt of anomalies, and knew not what to think.” In several such cases I have subsequently known other practitioners at fault, and who fancied from “the firm, uniform, globular mass forcing down into the vagina” upon which no orifice could be detected, that there really was no os uteri. By patience, however, and proper management, the efforts of nature, and sometimes, though very rarely, manual assistance, which in such cases is seldom required, the os uteri has been brought into a more favourable position, and the delivery has been safely though very slowly terminated.

If the pelvis is large, the uterus is in such cases forced into its cavity by repeated and violent pains, which have little or no effect in dilating the os uteri,

in consequence of its being out of the line of direction of the expulsive force. The anterior and inferior part of the body of the uterus may even approach the os externum; the head of the child, or any other part that presents, being distinctly felt through the thin and distended uterine parietes. In such instances, either of two mistakes have often been committed. In the first place, it has often been thought there was no os uteri, because it could not be detected by any ordinary examination with the fingers, however carefully conducted. Secondly, it has as frequently been supposed that the labour would be speedily terminated when it had scarcely commenced, for the head of the child is felt so distinctly, although still covered by the thinly expanded uterus, as to lead to the belief that the os uteri was entirely obliterated, although it was little, if at all, dilated. I will refer to a few authorities for the purpose of corroborating the opinions I have given; of showing how cautious we should be in presuming the uterus is imperforate, and also of shewing how completely the most experienced practitioners have been deceived in their diagnosis of such cases. Denman* says, "Cases have been recorded, in which it was said that the os uteri was perfectly closed, and in which it has not only been proposed with a pair of scissors to make an artificial opening instead of the closed natural one, but the operation has been actually performed." "I am persuaded there has been an error in some of these cases, and that what has been called a perfect closure of the os uteri has not been such, but that the practitioner has, at perhaps an advanced period of the labour, been unable to discover it by reason of its obliquity." Dewees† thus strongly expresses himself: "Within our own knowledge, this case (anterior obliquity of the uterus) has been mistaken for an occlusion of the os uteri, and where, upon consultation, it was determined that the uterus should be cut to make an artificial opening for the foetus to pass through. They thought themselves justified in this opinion, first, by no os uteri being discoverable by the most diligent search for it; and secondly, by the head being about to engage under the arch of the pubes, covered by the womb.

Accordingly, the labia were separated, and the uterine tumor brought into view: an incision was now made by a scalpel through the whole length of the exposed tumor, down to the head of the child. In due course of time the artificial opening was sufficiently dilated to give passage to the child. The woman recovered, and to the disgrace of the accoucheurs who attended her, was delivered *per vias naturales* of several children afterwards, a damning proof that the operation was most wantonly performed." Desormeaux* gives evidence to the same effect. Kilian† remarks, that in cases of supposed closure of the os uteri, the practitioner must be very much upon his guard, and very mistrustful of himself, for the diagnosis is by no means easy. Jörg†, in commenting upon "der schiefheit des gebärenden uterus," obliquity of the pregnant uterus, observes, that it often causes great perplexity to the practitioner, who, in consequence of not being able to feel the os uteri after many hours' duration of severe labour pains, *commonly* believes that the uterus is imperforate. Baudelocque§, in a very instructive paper on the subject, gives several cases in which mistakes were committed, and needless operations performed by experienced practitioners. Velpeau|| says, that he has so frequently known tolerably experienced practitioners affirm that there was no os uteri, when it was merely raised towards the sacro-vertebral angle, that he has no difficulty in referring to this mistake the *majority* of cases of supposed obliteration, and that for beginners the anterior obliquity of the uterus is very embarrassing; "ne trouvant pas de col, ils rêvent des anomalies, ou ne savent que penser." He mentions the following case, which is quite in point. It happened to one of his friends, who had practised three years, "avec distinction dans la capitale." The account was transmitted by letter to Velpeau. I do not presume to offer this as the counterpart of any other case, although, no doubt, its fellow might be found. I will not spoil it by translation. "J'ai passé la nuit près Madame de S.; le travail paraît marcher régulièrement; mais je

* Midwifery, 7th edit. by Waller, p. 241.

† System of Midwifery, p. 90.

* Dict. de Médecine, t. 15, p. 189.

† Die Operative Geburtshülfe, Erster Band, 259.

‡ Krankheiten des Weibes, Zweyte Auflage, 690.

§ Journ. Gén. de Méd. t. 52, p. 34, et seq.

|| Loc. cit. 216 and 229.

ne trouve point l'orifice; j'ai porté le doigt vers le promontoire, puis du côté des fosses iliaques, puis en avant derrière le pubis; partout je suis arrivé jusqu'au cul-de-sac formé par l'extrémité supérieure du vagin; mais je n'ai point trouvé le col; qu'ai-je à faire, qu'est-ce que cela veut dire?" Velpeau thus clears up the mystery: "C'est qu'en effet l'orifice était tellement porté en arrière et en haut sur la tumeur, que pour l'atteindre, il fallait recourber le doigt en crochet tout-à-fait en avant."

The patient whose case is related in the Guy's Hospital Reports was in labour with her first child. It is true that so great a degree of anterior obliquity of the uterus, as to lead to an erroneous diagnosis at the time of labour, occurs much more frequently in women who have borne many children, in consequence of the abdominal parietes having lost their power by frequent distension of supporting the gravid uterus. But it may and does happen occasionally in first labours, either from a natural flaccidity of the abdominal parietes, from the brim of the pelvis being inclined more forward than usual, or from an unusual convexity of the lumbar portion of the spinal column. It is stated in the case I refer to that a careful investigation was made about a month after delivery, and that there was no cervix uteri. In a case related by Lauverjat*, in which he and many other practitioners fancied there was no os uteri, and in which, consequently, an incision was made into the uterus, neither the os nor cervix uteri could be detected for two months after the operation. "L'un et l'autre alors étoient dans l'état le plus naturel."

It would be easy, but it is unnecessary, to add to the evidence I have adduced for the purpose of shewing that practitioners have very frequently been mistaken in supposing there was no os uteri at the time of labour, and that unnecessary operations have been performed. I should not be justified in giving any confident opinion as to the real nature of the case referred to. I cannot, however, conceive from the report of it that the uterus was imperforate. It appears to me much more reasonable to suppose the existence of a very common source of error, the possibility of which is not mentioned in the report of the case, and was therefore

probably not thought of, than to conceive the very rare, and, considering all the circumstances of the case, the almost incredible fact of the absence of the os uteri. The doubts I have expressed concerning the nature of this case may be unfounded, but at all events the facts I have mentioned may tend to guard young practitioners against hastily assuming that the uterus is imperforate at the time of labour, and to impress upon their minds the difficult diagnosis in cases which are very slightly referred to by English writers, and which, judging from the printed reports of Midwifery Lectures, are much too briefly dismissed by English teachers.

Gloucester-Place, June 1, 1837.

A CASE OF
PLEURITIC EFFUSION AND PA-
RACENTESIS THORACIS—
CURE*.

BY DR. JOHN WILSON.

EDWIN COOK, aged 19, was admitted into the Middlesex Hospital on the 16th February, 1836. He was too ill to give any connected history of his case. The nurse who had been up with him the three preceding nights, said that he had suffered much from a severe cough, and great difficulty in breathing, at times threatening suffocation; that he had been ill for three weeks, and had been bled and blistered.

At present the left side of the thorax is distended, and universally dull on percussion, with absence of respiration (excepting some bronchial respiration), and resonance of the voice under the clavicle. Ægophony at the lower angle of the scapula; impossibility of lying on the right side; impulse of the heart much stronger under the right mamma than under the left. In a few days more he lost his voice, became much worse, but his intelligence was perfect; he had then been bled, cupped, put under the influence of mercury and tartar emetic.

To prevent repetition, I shall briefly describe the symptoms a week after admission, and a month from the date of his illness.

Cough severe, whooping and causing

* Neue Methode den Kayserchnitt zu machen, 188. Quoted by Baudelocque, loc. cit. p. 45.

* Read at the College of Physicians, June 8d.

profuse perspirations; expectoration difficult and purulent; dyspnœa urgent; respiration very quick; pulse rapid; lips of a pale blue; very drowsy; trunk bent forward when sitting up in bed; no sound by percussion, nor respiration, excepting some slightly heard under the clavicle; the left side still more protuberant anteriorly, laterally, and posteriorly; intercostal spaces even with the ribs, very tense, and ribs immovable; the same impossibility of lying on the right side; heart's action still more marked on the right side, and extending to the sternum: the right lung having to arterialize all the blood, its respiration became puerile.

His sufferings and danger were too great to allow of trying succussion, but without that test, all the other symptoms were quite sufficient to indicate pleuritic effusion; and that without an early relief, the chance of his surviving 24 hours was very doubtful.

The ear having been applied to the part intended to be punctured, in order to ascertain that the lung was not adherent to the pleura-costalis, a grooved needle was introduced laterally, in a line vertical with the axilla, between the fifth and sixth rib: for a short time only blood from the parietes oozed out, but on depressing the needle serum became apparent; then the integuments were divided by a small opening, and a trochar introduced by Mr. Tuson, and nine pints of clear fluid were drawn off. At first the fluid was propelled out in jets during each inspiration, and at each expiration air rushed in with a whizzing noise, the jets becoming gradually less, and the flow more uniform, approaching to a continued stream; till towards the last, air rushed in during the inspirations, and not as at first, during the expirations. As the last pint was drawn off, he was inclined to the left side, so that the remaining fluid might gravitate towards the opening; and when all the fluid had come away, he was made frequently to take deep inspirations. When the orifice of the canula was closed, to prevent the air rushing in, then on removing the finger during expiration, by coughing, the air was forcibly expelled with some bubbles, making a noise like a nearly exhausted pump; by this process the air was in a great measure expelled from the chest, and then the opening was closed.

At different times during the discharge, he became faint when the canula was stopped for a few minutes, at the same time the heart was noticed to move gradually from the right to the left side, and when it reached its natural place it caused pain there, which extended down into the abdomen.

Towards the end of the operation he expressed himself as greatly relieved in his breathing.

Before paracentesis the
respiration was - 50, pulse 128
in a minute.

In the middle of the
operation - - 46, — 126

At the end - - 38, — 120

Three and a half hours
after - - - 40, — 120

The following day he felt quite easy; respiration tranquil; crepitous respiration anteriorly and posteriorly, with clear sound on percussion; can lie on the right side; whistles for the nurse, and expresses his wants in a whisper.

Nothing hereafter was attempted by medicine, but merely to regulate the bowels; but particular attention was all along paid to diet, and thus by promoting his general health we trusted to effect the absorption of the fluid; he gained strength, and the expectoration became trifling.

The following week respiration became less marked, and not audible at the base of the lung; but on speaking or coughing, a sound was emitted, below the spine of the scapula, as if a bronze vase were struck — the “*bourdonnement amphorique*” of Laënnec — but which was not affected by inspiration nor expiration: sound on percussion more sonorous on the lateral part of the left side, when lying on the right, than when sitting up, when the lowest parts emit the dullest sounds, — indicating that liquid was again effused.

About three weeks after the paracentesis, when he was laid on the right side, and the ear applied to the left axilla and downwards to the lower ribs, and the patient made to shake himself, according to the Hippocratic method of succussion, a most distinct fluctuation was heard, indicating the presence of both air and fluid in the left pleural cavity; this sound continued to be heard many weeks, even without applying the ear to the chest, and was also heard by the patient when turning himself in bed; it gradually became less, and ulti-

mately ceased, without again having recourse to the trochar; but the wound which was at first made by it was long in healing, though no fluid escaped by it after the operation.

He was discharged on the 20th June, no sound by succussion having been heard for the three preceding weeks, respiration being heard over all the left side, but very feeble at the lower part, where the sound is the dullest, the puerile respiration being now gone. There is some slight curvature of the spine, but both sides are nearly uniform in appearance: eats, drinks, and sleeps well; is fat, and has a full glow of health in his face.

He came to see us six months afterwards. Was quite well, and in service; but the left side was a little more contracted than the right, and the muscles less developed, but which he himself attributed to his rarely using the left hand. Respiration was then general, but not equal, being the most feeble at the lower part of the left lung; the left scapula was lower than the right, with some slight curvature of the spine.

Here, as Laennec observes, the lung being bound by false membranes, or the union of two, forming one, of a fibro-cartilaginous nature, the parietes of the chest contracted towards the lung, and thus diminished the left pleural cavity; and perhaps the increased respiration, by necessity, of the right lung, might tend to develop that side, and make the disparity still greater,—being the reverse of what was the comparative state of the two sides at first.

It may be observed in this case, that the effusion was great, embarrassing the respiration and circulation, diminishing rapidly the vital powers, and threatening asphyxia; that at an early stage of the disease it was evacuated all at once, and not by portions; after which the orifice was immediately and permanently closed; that the atmospheric air came all at once in contact with the entire pleural cavity, without producing the dreaded effects on an inflamed serous surface. Notwithstanding the several tendencies to fainting, the regular diminution of the pulse and respiration encouraged the persistence in the total abstraction of the liquid; afterwards the fluid was found again to have accumulated, and soon after it was ascertained, by succussion, that air as well as fluid were contained in the pleural cavity;

that this second effusion was removed by absorption, without the aid of medicine; that he left us in good health, and continued so six months after.

The opening was not made low down; for it has happened that when made there, the instrument has not only passed through the intercostal space, but likewise through the diaphragm; and by giving the patient the proper inclination towards the last, so that the remaining fluid might gravitate towards the opening, all the advantages, without the danger, were obtained; lastly, the air was exhausted as much as possible by pumping it out of the chest.

It has been noticed that the air at first rushed into the chest during expiration, and towards the end during inspiration. To some this may appear a mistake, or careless observation; yet it admits of easy explanation. At first little or no vacuum existed in the chest, it being filled with fluid and compressed lung, admitting of little respiration. Likewise the diaphragm and parietes were immoveable, from the great and constant pressure; but an opening being made, then on inspiration the lung becoming partially dilated, the parietes and diaphragm remaining fixed, the liquid was propelled out. On expiration the lung contracted, and a vacuum would have remained in the chest equal to the fluid ejected, if the air at that time had not rushed in and filled up the space. Towards the end, when the pressure was greatly taken off the parietes and the diaphragm, they both admitted of dilatation and contraction during inspiration and expiration. At that time the fluid was greatly diminished; then, on inspiration, the lung only admitted of dilatation to a certain extent, being restrained by false membranes; at the same time the ribs and diaphragm admitted of increased dilatation, proportionate to the diminution of the fluid, thus causing a vacuum greater than the lung was able to fill up. Air then, on inspiration, rushed in, and was forced out during expiration, from the ribs and diaphragm contracting quicker than the lung.

It has been noticed that, as the fluid flowed out, it was limpid and transparent, but soon after shreds of fibrine were found floating in it; and when it became quite cold, it had separated into three parts: first the loose shreds of floating fibrine; then large, globular,

hydatid-like masses, floating or suspended in a more liquid fluid,—the two last having the appearance of half-cooled calf's-foot jelly.

Now had the patient died just before the chest was punctured, the effused fluid being then in a situation the most favourable for its separation, by a slow and gradual cooling process after death, may we not infer that, under such circumstances, a portion of the fibrine and albumen would have been deposited on the membrane immediately in contact with it—that is, the pleura pulmonalis and costalis, forming the albuminous layers of the French, or the coagulable lymph of the English pathologists, and constituting the newly-formed false membranes so commonly found after death?

May we not justly conclude that, in cases in which much serum has been effused, many of these formations have their origin after death, and not, as is so commonly supposed, before death? for may not the serum, like the blood, when drawn from the body, or cooled in the body after death, be separated into two parts, the one a more solid, and the other a more fluid body, than the serum or blood itself? for this *fluid**, like the blood itself, contained both albumen and fibrine, but was free from the red colouring particles of the blood.

How often, in ascites, when the peritoneal coverings of the intestines and abdominal parietes are pale, and exhibiting not the least traces of recent inflammation, do we find in the convolutions of the intestines soft, white, gelatinous, or custard-like deposits, which may be removed by the slightest touch. The same appearance may be noticed, along with effusion into the pericardium, particularly after recent inflammation; also between the convolutions of the brain similar sub-arachnoid deposits may be found, with or without traces of inflammation in the serous membranes, and many of which may have been gradually deposited after death, as the body gradually became cold.

* Analysis of the fluid by Mr. Everitt:—Specific gravity, 1·022. Coagulation took place at 80 degrees; became perfect at 85. 1000 grains produced 70·5 of dry albumen; common serum, according to Berzelius, contains 80. Fibrine, similar to that found in the fluid, was obtained by filtration.

MIDWIFERY CASES.

To the Editor of the Medical Gazette.

SIR,

SHOULD the two following cases be of sufficient interest to occupy a corner in your valuable journal, your insertion of them in the GAZETTE will oblige

Your obedient servant,

J. L. BARALLIER, M.R.C.S.L.

Southport, May 28, 1837.

Mrs. R. æt. 26. Her first labour. About 4, P.M., whilst sitting by the fire, felt slight pains; immediately the membranes ruptured, and the waters dribbled away gradually, and in small quantities. She had a fall during gestation, and constant irritability of the stomach. Middle size, stout, and before impregnation, enjoying good health. Her mother had always had slow, lingering labours, and she much dreaded having a difficult time. I got there about 7 in the evening, found the pains abating, if not almost gone. The os uteri undilated; the head lying at the brim of the pelvis. The shape of the uterus puzzled me; I found a long neck, with the os uteri at its extremity, into which I could with difficulty insinuate the tip of the finger: and gradually introducing it as far as midway between the first and second joint, felt the foetal head, and found the extremity of the finger grasped, as it were, by a sphincter muscle. This appendage to the uterus might be an inch and a half, feeling around the finger like a piece of Indian rubber.

At 9 I gave (when cool) Secal. cornut. ʒj. infus. in aq. bull. ʒij., grains and all. The uterus now acted vigorously, and yet at twelve I had the same difficulty in insinuating my finger through this funnel-like uterus. The uterus was also thick and rigid.

12 nocte, V.S. ad ʒxviii.

Stomach before and after the bleeding irritable. I was in hopes this irritability was preparatory to the dilatation of the uterus.

Pulse small and weak,—no headache or thirst,—tongue moist and white,—micturition and tenesmus,—cold, and alternate heats,—becoming anxious, and tossing herself about in all directions. At 6, A.M. the uterus not one jot more dilatable,—pains active, and almost without intermission.

7, A.M. I found the uterus dilating, all traces of this neck disappeared, and in half an hour a very small girl was born alive. Immediately after delivery the patient was seized with a severe rigor; no farther unpleasant symptoms presented themselves.

REMARKS.—The peculiarity of the uterus. That it was the uterus is, I think, apparent, by the pain caused in introducing my finger, and fruitlessly attempting dilatation, and when so introduced, feeling the head. The length of this neck, with its sphincter-like action. The ergot producing more vigorous pains, though no dilatation; V.S. not removing the rigidity, when all of a sudden, when I had not examined for half an hour, the head was almost presenting itself externally.—December 15, 1836.

I was called about 6, A.M. to Mrs. C. in labour of her second child. I found the uterus dilated, the head entering the true pelvis, the pains good. But on inquiring how long since the waters escaped, was told it was just *that day month*; that she had been confined about 12 years before, and was then nearly three days in labour. As the head made no progress I gave the ergot as in the preceding case. About 8, A.M. she was delivered of a dead child. What little fluid was expelled with the child was very offensive. The child did not appear to have been dead more than two or three days. After the escape of the waters she was daily expecting to send for her medical attendant, but as she experienced only a few trifling pains in the night, which went off towards morning, she postponed sending till she thought her labour had properly commenced. She was convinced that she had gone ten months. All that I know is, that the membranes were ruptured a month before the accession of labour.—Jan. 6, 1837.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

A Translation of the New Pharmacopœia of the Royal College of Physicians of London; with Notes and Criticisms. By G. F. COLLIER, M.D., &c.

WE beg to assure Dr. Collier that the following remarks on his Translation

are the unbiassed opinions of the writer, who is totally unknown to the Doctor, and who believes the notice is, as it was wished to be, a “*fair*” one.

The “getting up” of the book (*i. e.* paper and printing) is respectable: its size (royal octavo) is unwieldy, and adapted more for the counters of Apothecaries and Chemists, than for the pockets of medical students. We dislike the side columns; they are objectionable to the eye, and, moreover, they do not always contain what they profess to do—“*cautions.*”

The translation is (as far at least as we have examined it) for the most part correct. The orthography is on several occasions, however, very bad: for example, *Guaiacum* is always spelled “*Guiaicum*,” *Asarabacca* is printed “*Asarabacca*,” *apthæ* is put for *apthæ*; “*Majendie*” for “*Magen-die*,” &c.

At page 225, under the head of *Tinctura Hellebori*, we find in the column of cautions—“The College do not mention which hellebore: they will pardon my indicating the black;” and accordingly the name of the tincture is put thus—“*TINCTURA HELLEBORI [NIGRI]*.” Now if the Doctor had taken the trouble of turning to the “*Materia Medica*,” he would have there seen that by hellebore is meant the root of “*Helleborus officinalis*,” and by reference to *Decandolle*, or any other good botanical work, he would have found that the *H. niger* is a distinct species from the *H. officinalis*. So that his addition of “*black*” is not only unnecessary but erroneous. What does the Doctor mean by calling the fruit of *Fœniculum* “the fruit-seeds?” At page 72 we are told erroneously that the oil of Fennel is contained “in the testa of the seed [fruit].” Now we had thought that every botanical tyro knew that the volatile oil of the fruit of *Umbelliferæ* resided in the vittæ of the pericarpium.

The Pharmacopœial process for making the oxysulphuret of antimony is not quite identical with that for making the golden sulphuret,—neither is the composition of these two substances the same: and, therefore, the translator is in error when he puts “Golden Sulphuret of Antimony” as a synonym for the Oxysulphuret of the Pharmacopœia.

The theories of the different chemical processes,—as well as the composition of, and tests for, the dif-

ferent compounds,—have been omitted, as Dr. Collier intends to print them in a distinct work; so that we have not much to criticise in the department of chemistry. One error, however, we notice at page 64, where we are told that gallic acid gives precipitates with all the salts of morphia. The truth is, it precipitates none of the morphitic salts: the translator has evidently confounded the effects of the infusion of galls with those of gallic acid. What does Dr. Collier mean when he says that nitre is both *chemically* and medically allied to the spirit of nitric æther?

Dr. Collier has pointed out some mistakes in the Pharmacopœia (principally in regard to quantities), but we dislike the spirit in which he notices them. We advise him to omit in all the unsold copies "The Preface of the Translator:" it is calculated to do him harm, and cannot be productive of good.

Our opinion of this "Translation" may be gathered from the preceding remarks.

The Northern Flora; or a Description of the Wild Plants of the North and East of Scotland. BY A. MURRAY, M.D. Part I.

THE Floras of Lightfoot and of Hooker are chiefly confined to the south and west, and can hardly be said to comprehend the north and east parts of Scotland. It is the object of the present work to supply this deficiency. The author includes in his work the plants of the interesting districts of the mountains of Angus and of Sutherland, which have been so zealously explored by Professor Graham, of Edinburgh, and by others, and gives the results of his own careful and long-continued observations in Aberdeenshire, and in other districts. The matter of the book might have been given with advantage in a more condensed form, as the object of local Floras must always be essentially practical. For this reason, remarks on the medical properties of plants, except where any peculiar local employment of them is worthy of notice, ought not to be admitted. It is also to be regretted that the nature of the localities, with reference to geology, has not been indicated in any instance; as it is only from multiplied local observations that it can be ascertained what influence

geological structure really exercises over vegetation. The heights at which the different plants have been found, is, in many instances, very properly given. In fine, if the two remaining parts appear, as Dr. Murray proposes, in a more condensed form, the whole work will be very creditable to the author, and highly useful to botanists.

Some Account of a Fever prevalent in the Year 1831. By G. L. ROUPELL, M.D.

DURING the time that Dr. Roupell was Physician to the Seaman's Hospital Society, he had an opportunity of observing on board the *Grampus* a large number of cases of fever, of which, as they differed much from the type more generally known, he was induced to draw up an account, which was read before the College of Physicians. Since that time he has had additional opportunities of noticing it, and never more frequently than during the late spring, at St. Bartholomew's Hospital. From the great prevalence of the disease, even at the present time, he has been induced to publish his original paper, with some additional details. In giving the following abstract of its leading characters, many of our readers will at once perceive the resemblance, if not the absolute similarity of character, which it bore to that now prevailing.

The first marked symptom was complete prostration of strength, with a peculiar dusky countenance, which was soon followed by a singular brilliancy of the eye, a strange wildness of the look, and an intenseness of gaze, which afforded a striking contrast to the more prominent signs of debility. The brain was the organ principally affected; some, blinded to their state, considered themselves quite well; others had depression, and conviction of approaching death; others strange noises in the ears; others hallucinations. The eyes were usually suffused and injected, the pupil contracted; the tongue, thickly coated with a dirty fur, was moist. There was intense thirst, loss of appetite, though rarely vomiting. The bowels were usually constipated; but if open the evacuations were involuntary; and there was often retention of urine from paralysis. The pulse was weak, little if at all increased in frequency, but often intermitting. The tendons of

the fingers, and the corners of the mouth, were often observed to twitch. The skin was little increased in heat, except on the forehead; in nearly all it was covered by a bright or dusky rash, in patches of various sizes, when vivid closely resembling measles (though evidently distinct from it by numerous circumstances), and occasionally mixed with petechiæ, or larger ecchymoses. In fatal cases the affection terminated with partial paralysis, loss of consciousness, coma, convulsions, a dry tongue, thick sordes on the teeth, copious hæmorrhages from the intestines, cold extremities, &c.

Such were in general terms the symptoms observed in seventy-five cases, between January and April, of whom 12 died; but 7 of these might be said to be altogether beyond medical treatment, or to have died of other affections, so that the mortality was properly five in sixty-eight. The morbid appearances were almost entirely confined to the lungs and brain: in the former, inflammation of its various tissues was often found; in the latter, *in every case*, either turgescence of vessels, effusion of serum or pus, or deposition of various quantities of lymph, in the ventricles, at the base, or on the hemispheres and between the convolutions. In the intestines there were *no signs whatever* of inflammation. Even where there had been hæmorrhage, turgescence of the vessels alone marked the part from which it had probably proceeded.

This last observation is very valuable, and is fully confirmed by cases which have since occurred, and by those which have been met with this year. In every symptom the affection resembles that commonly known by the name of fever, whether specified as adynamic, nervous, typhoid, or low fever; yet, while the intestines are unaffected, all the weight of the disease seems to fall on the nervous system, which is invariably affected during life, and is found morbidly altered after death. Nothing can prove more positively the independence of some cases at least of fever of any intestinal affection; in every thing but this point the cases closely resemble those of the *fièvre typhode* of M. Louis, and the gastro-enterite of M. Broussais: unfortunately M. Louis makes this the characteristic lesion of that disease.

Some important evidence is also pre-

sented by this memoir on the subject of contagion. All the most marked cases came from a place in Wapping, where shelter is afforded to distressed and houseless sailors. At first isolated, they soon came in crowds: many of these had slept at this asylum for one night only, and were found in the morning too ill to stand. Dr. Roupell himself saw three of the attendants at this place ill with the same fever, and they told him every one who had been with the sick was or had been ill. On board the *Grampus*, eight patients, convalescent from other disorders, were soon attacked, as well as two of three hired to replace them, and all the nurses (four) attending the medical cases were shortly after and simultaneously seized. In all these cases the eruption was well marked. When these nurses went to their houses, their families were attacked in exactly the same manner, though less severely. With all this, too, *no disease of the kind prevailed either in the neighbouring ships or on shore.*

The peculiar train of symptoms, and the characteristic rash, induce Dr. Roupell to rank this among our specific fevers, under the name of *febris typhodes rubeoloida*. It certainly shows the close relation between typhoid fever and those hitherto regarded as widely separated from it, and each altogether peculiar to itself. In all the specific forms, indeed, it may, we think, be considered that the convenience by which they may be classed by the characters of the accompanying rash, has led to its being regarded as of too great importance: it can, indeed, only be one sign of the peculiar general morbid change which induces it in common with the other symptoms, and can certainly not be itself the cause of any other of the numerous peculiar symptoms.

Dr. Roupell's experience has proved to him the impropriety of large evacuations of any kind. Leeches, applied where local symptoms seemed to warrant, are the most that can be used with safety: even these will often seriously depress, and in many cases wine and other stimulants must be given with no sparing hand. Great benefit was in many cases derived from the use of opiates in cases where, without much cerebral excitement, there was great watchfulness, or convulsions, and wandering imagination, especially in

the late periods of the disease, during the debility which then prevailed. In many, where the brain was seriously congested, blisters to the nape of the neck were very advantageous.

In this brief work there is much very useful information.

MEDICAL GAZETTE.

Saturday, June 10, 1837.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

PUBLIC HYGIENE.

WE have often wished that we could call the attention of the legislature to those points in which the preservation of the public health depends, on positive enactments. Now we may make this appeal in two ways,—not only directly, by addressing ourselves to those members of either House who consult our pages, but also indirectly, through the means of our medical brethren, as it is to them that legislators naturally look for information on such subjects. We therefore offer no apology for giving a brief abstract of some topics which fall under the noblest division of medicine—the prophylactic, or art of preventing diseases.

1. It is a matter of primary importance to preserve the air from being tainted by putrid substances, whether animal or vegetable. To prevent this corruption of the atmosphere is, we are well aware, one of the objects of the Street Act; but how the enactments relating to this point are observed, or rather how utterly they are neglected, though well known to medical practitioners, is, we fear, quite a mystery to members of Parliament, as they seldom visit the Rookery, or the dark recesses of Spitalfields or Wapping.

Dr. Hodgkin, when lecturing a

Spitalfields' auditory, well qualified to judge of the truth of his portrait, thus described the state of that unhappy district:—

"The pavement, sunk into large and deep holes, presents pools of stagnant and offensive water, which, being excluded from the influence of the sun and wind, are never dried up by the greatest heats of summer, but are constantly present, to assist, by maceration, in the corruption and putrefaction of the various animal and vegetable offals which are thrown into them. In one street which I had occasion to visit week after week, my attention was attracted to the broad gutter which occupied a large portion of the middle of the road. It was filled rather with mud than water; long stagnation had covered its surface with a filthy green scum. I watched its condition, as shown by various old utensils collected in it, but could discover no change but that of increase. I had a patient sick of fever in this street, and when he happily recovered, in spite of his disadvantageous residence, I found a difficulty in allowing him to go out of doors into the air, which, under different circumstances, would have been extremely desirable.

"I might describe nearly the same state of things in other situations. * *

"They appeared almost wholly to have escaped the attention of both the paviour and the scavenger; and, as they are by no means contiguously situated, it is clear that this neglect is not limited to one part of the district *."

The interment of bodies in towns should be prohibited. It is singular that this hygienic rule should have been enforced more than 2000 years ago, by the Decemviri, though now so generally neglected. "*Hominem mortuum in urbe ne sepelito, neve urito.*"—*Lex xii. Tabul.* apud *Cicer. de Legibus*†.

Under this head, too, will come the removal of noxious manufactories from

* Lectures on the Means of Promoting and Preserving Health, p. 24—26.

† Cicero thinks that the latter part of the prohibition was caused by the fear of setting the city on fire.

the heart of cities, as well as the draining of fens at the public expense.

2. The inspection of the markets requires to be carried on with greater vigour; for the occasional confiscations of poisonous provisions that we hear of, seem rather to give a glimpse of the extent of the evil than to provide a remedy for it. That diseased meat is sold in London in enormous quantities is but too clear, though we trust that the fraud is not quite so common as in France, where Mérat, when recounting the diseases of butchers, says with great *sang froid* that they are liable to be infected by the animals they kill, especially in hot weather. Hence they are attacked with carbuncles and malignant pustules; and this more frequently, according to his observation, in Burgundy than at Paris*.

The flesh of animals that have died spontaneously will, of course, often be dangerously unwholesome. Dr. Christison narrates a case in which four adults and ten children ate a stew made with meat taken from a calf found dead on the sea-shore. They were all seized with pain in the stomach, efforts to vomit, purging, and lividity of the face, succeeded by a soporose state, like the stupor caused by opium, except that, when roused, the patient had a peculiar wild expression. One died; the rest recovered with some difficulty†.

It must be confessed that in this, and other similar instances, no imaginable system of medical police could prevent starving persons from seizing any food that came uppermost. The remedy is to be sought partly in improving the condition of the poor, and partly in spreading among all classes a knowledge of those facts which have been

hitherto the exclusive heritage of the educated few.

In one instance the harsh lessons taught in the school of experience seem to have been effective, as we learn from Christison that in the neighbourhood of Edinburgh and Leith, the muscle has been abandoned by many people as an article of food, from the frequent observation of its poisonous qualities, "although generally relished, and in most circumstances undoubtedly safe."

It is singular that cheese and sausages, seldom if ever poisonous in England, should so frequently be so in Germany; thus in Dr. Berndt's *Clinical Communications (Klinische Mittheilungen)*, we find that of 6,226 patients treated by him at Greifswald, ten were cases of cheese poisoning.

It is remarkable that the adulterators of beer are always prosecuted merely as offenders against the excise laws, and not as poisoners of their fellow-citizens. Dr. Christison gives as one of the reasons why the medical jurist should make himself familiar with the external characters of *Cocculus Indicus*, that it has been extensively used by brewers as a substitute for hops.

Heister, in his thesis *On the Care that Rulers should take of the Health of their Subjects**, is very *exigeant* on the matter of beer. He complains of the too great variety of its qualities: one man, he says, alters it through ignorance, another through negligence, a third through avarice, and a fourth from self-sufficiency,—and all this in addition to the variations arising from the difference of the water with which the beer is made. Hence he advises that public brewhouses should be built in places noted for good water and good air, and that the liquor should be brewed

* Dict. des Sciences Médicales, vol. xxx, p. 215.

† Christison on Poisons, p. 484.

* Dissertatio de principum curâ circa sanitatem subditorum. In Schlegel's Collect. Opusc. ad Med. Foren. spect. Lipsiæ, 1784.

by sworn brewers, whose proceedings are to be overlooked by official inspectors.

There is a strange sort of porter occasionally to be met with in London, without any heart, goodness, or fulness upon the palate, but of considerable stupifying power; the uncharitable might suppose that it was a diluted beer drugged with some narcotic. One of the most remarkable characteristics engendered by the hurry and worry of civic life, is the swinish indifference of the mass of the population to the taste of their victuals; no bread can be too aluminous, no beer too drugged, no fish too decomposed, to be swallowed; and while this insensibility of the gustatory nerves continues, we fear that brewers' oaths would prove but a frail safeguard. Whether analysis may ever reach its *acmé*, so that adulteration might be proved and punished on chemical evidence alone, it is difficult to conjecture; but it is in the cellar of the publican, rather than in the brewery, that the services of a London inspector would be required.

3. To provide great towns, and especially this vast metropolis, with an abundance of pure water, is one of the most obvious requisites for public health; but this has been so much insisted on of late years (though not yet carried into execution), that we shall be content to mention, without discussing it.

4. It is most unfortunate that the use of distilled spirits, so destructive of the health, as well as morals of the people, should be encouraged for merely fiscal considerations. It is true that by diminishing the duty on spirits, the revenue derived from it has increased; but would not the same effect be produced by lessening the duty on wine and tea, its natural substitutes? It is worthy of note that less than seven millions of gallons of wine are annually imported

into England, the richest country in world; so that the duty of 5s. 6d. per imperial gallon, which anywhere else would be a prohibitory tax, is even here a highly discouraging one.

5. It would not be unworthy of a truly patriotic legislature to discourage quacks and unqualified practitioners; but when we find that, for the sake of the paltry revenue derived from them, the most dangerous compounds are allowed to go forth under the sanction of a patent, and see that charlatans convicted of the most reckless manslaughter (to use no harsher term), are still allowed to continue their attacks upon life, it is enough to make the most sanguine despair.

6. Some provision should be made for the education of chemists and druggists, as well as their apprentices. It is rather frightful that the differences between aconitum and aconitina, hydrargyri chloridum and hydrargyri bichloridum, &c., are left to be appreciated by an unlettered lad, who frequently cannot read the simplest prescription.

The pitiable state of the drugs kept in ordinary shops requires a vigorous supervision. In the case of some popular remedies a substitute is frequently manufactured, bearing not quite so good a resemblance to its prototype as gooseberry wine does to champagne, or P. D. to ground pepper*.

Thus Dr. Paris informs us, in his Pharmacologia, that jalap blackened with walnut liquor is often substituted for the pulp of cassia in the Confectio Sennæ; and that the great bulk of this electuary, as sold in London, is little more than figs, prunes, and jalap. He has been told, also, that a considerable quantity is manu-

* P. D. (*i. e.* pepper dust) is made of everything but pepper, for which it passes with the unwary.

factured in Staffordshire, in which unsound and spoilt apples are a principal ingredient.

Mr. Burnett remarks that the occasional scarcity of the *Secale cornutum* has led to a variety of frauds; and that "some specimens, which were procured for analysis by a celebrated chemist, were found to be only plaster of Paris casts coloured in imitation of the ergot *."

Many of our readers will recollect the interesting communication of a correspondent on the state of drugs in London, which appeared in our journal three years ago†. After observing the enormous difference in the quality of certain articles of the *Pharmacopœia* as found in the shops, and the consequent variation in price, he says — "I have known this difference range from 12s. to 20s., from 1s. 8d. to 6s.; and this in medicines declared to be of the best quality, and furnished to a great public institution, where it was known that they would be submitted to a fair competition, and would be carefully examined by a competent professional committee."

We may add in confirmation, that at an institution with which we were connected, a representative of the great drug-house which furnished our medicines, after repeated denials of the plain fact that the physic was very bad, at last bolted out the truth, that the rhubarb was not the best, but the best that could be sold for 6s. a pound.

COLLEGE OF PHYSICIANS.

June 3, 1837.

SIR JAMES MACGRIGOR, BART., IN THE CHAIR.

THE last meeting of the season was held on Saturday, the 3d instant, Sir James Macgrigor, Bart., in the chair. It was more numerously attended than

the preceding, but the room was far from crowded. As we have already repeatedly remarked, these *conversazioni* are not supported by the members of the College; and if they do not take the trouble to be present to receive their guests, it is not to be supposed that many will think it worth while to accept their invitation. Two papers of interest were read,—one from the pen of Dr. Wilson, of Middlesex Hospital (which we insert at page 395)—the other, consisting of "Some Remarks on Nervous Diseases," by Dr. Heberden, which we shall lay before our readers next week.

LIGATURE OF THE ARTERIA INNOMINATA.

MR. LIZARS, of Edinburgh, is stated in the newspapers to have tied the arteria innominata with success for aneurism of the subclavian artery, on the 31st of last month.

MR. KEATE.

MR. KEATE, who has long been "Surgeon to the Person," has been appointed "Sergeant-Surgeon Extraordinary" to his Majesty.

RETROSPECT

OF THE

PROGRESS OF ANATOMY, PHYSIOLOGY, AND THE MEDICAL SCIENCES.

FROM MÜLLER, ARCHIV. FOR 1836.

[Continued from page 319.]

THE part of Müller's retrospect following that of which we have given an abstract in our last number, is occupied by the additions to comparative anatomy; but this we venture to pass over, in consideration of the small number of our readers to whom it would be immediately interesting, and because, while many of the subjects here introduced border closely upon zoology, all the medically-important results deducible from comparative anatomy are included under the heads of anatomy, which we have already noticed, and physiology and pathology, of which we next proceed to give a similar abstract.

Luminous marine animals. — Ehrenberg has published a complete treatise on the luminous appearance of the sea, and has de-

* Outlines of Botany, p. 207.

† MEDICAL GAZETTE, vol. xiv. p. 65, *et seq.*

scribed a large number of the marine animals on which it depends. He doubts whether respiration be in any way connected with the giving out of light, but acknowledges its relation to the sexual functions, and says that it is a vital act very similar to a development of electricity, becoming weaker by repetition, and is in immediate connexion with the nerves. All the author's observations seem to prove to him that the giving out of light in the sea is an attribute of living animals only; and that where it has seemed otherwise it has been owing to portions of torn but still living species of *noctiluca* and *oceania*.

Animal heat.—The only interesting addition on this subject is an observation made by Becquerel and Breschet, that the contraction of muscles is always connected with a local increase of temperature of one or two degrees.

Transfusion of blood — Bischoff has proved, that when the blood of one animal is transfused into the vessels of one of another species or class, death is not produced by the introduction of globules either too large or too small, but by the fibrine; for while unstirred blood from a mammal, injected into a bird's veins, destroys life in some seconds, with symptoms of poisoning, blood which has been deprived of its fibrine by stirring may be injected without any serious consequences. The blood of all the higher classes, however, whether stirred or not, appeared fatal to frogs.

Coagulating urine.—Nasse has met with one of those singular cases of self-coagulating urine, similar to those described by Drs. Prout and Elliotson, and by Brandis. The urine coagulated sometimes in the urinary bladder, and the firm portions occasionally blocked up the urethra; its smell was not urinous, but it contained urea. The gelatinous white matter was at first in one connected mass; but on shaking or pouring it out, it separated into lumps and a yellowish-white fluid, which continued oozing from the lumps till a membranous, white, web-like matter, remained behind. The coagulum, placed under the microscope, presented all the characters of one of fibrine, and contained a large quantity of fat. The general health was but little affected.

[We of course omit to notice the remarks on the experiments relating to the sounds of the heart, Dr. Alison's observations on the arteries of inflamed parts, and the other subjects which are quoted from the *GAZETTE*.]

Pulmonary exhalation.—Tiedemann's numerous experiments establish the rapidity with which substances received immediately into the blood are exhaled by the

lungs. A few seconds were in all cases sufficient to detect the fluids injected into the veins passing off in vapour, recognizable either by its colour, as that of phosphorus, &c., or by its smell, as of musk.

Ciliary motions.—The ciliary motions have, during the year, been found to exist in many more parts of the bodies of different animals, as by Dr. Sharpey in the stomach and cæca of the *asteria*, the intestines of *annelida*, and stomach of *actinææ*. He has found them, too, on other than mucous membranes, as in the lining of the cavity containing the intestines in the sea star, &c.; and in many vertebrate animals he has determined the direction of the currents. Purkinje has also lately detected them in the lining of the cerebral cavities. He and Valentin describe the structure of the ciliæ to be as follows:—The ciliary epithelium is always found on a fibrous layer, though this does not seem to differ from that which occurs in non-vibrating mucous membranes. In the sheep's trachea there are found most externally rows of longitudinal fibres; on these lie, more internally, a layer of fibres perpendicular to the axis of the organ; between the two are mucous follicles; and lining them all is the epithelium, beset with ciliæ: these are in man and mammalia of a truncated form, in birds more pointed, and in amphibia distinctly acute; in vertebrata they are generally flat. They generally bend in rows, so that their motions resemble the waves in corn. In these motions of bending down and rising up, it is the elevation of the ciliæ which produces the currents in the fluid. The authors examined the effects of narcotics on the ciliary motions, and have found that they are altogether incapable of staying them.

Seminal animalcules.—Treviranus and Siebold have examined this subject in detail, and though their observations differ in some particulars, the result is the determination of the existence of animalcules in the semen, not only of vertebrate but of all the invertebrate animals at present examined during the breeding period. The latter describes them very minutely. Their general form is that of extremely delicate filaments, having one end somewhat larger than the other, or even knobbed; they have a slight oscillatory motion, either individually or as they lie collected in masses, and when moistened, the smaller end twists and coils up in a circle, so as to look something like a disc as it lies in fluid. One or two or more coils may be formed, and by the varying manner in which this motion takes place, and the general position of the worm, very different and often puzzling figures are produced, so that it requires long observa-

tion to detect the real form, and reconcile the apparent varieties in the minute worms.

Anatomy of unimpregnated ova.—Wagner's observations prove that the germinal vesicle, even in unimpregnated ova, always contains a round granular spot, *macula germinativa*, forming sometimes a simple spot, sometimes several scattered corpuscles. This he has found to hold in all classes, even to the lower animals.

Impregnation and gestation of roes.—By very careful observations on fifty-four individuals by Pockels, it is proved that while the period of impregnation of roes falls in August, the ovule does not leave the Graafian vesicle and pass into the tube till December,—that is, the ovum remains near five months after impregnation without being developed. Before rutting, the uterus is smaller, softer, and its interior less red than during that period, and after it, its turgescence again decreases; during and after it the ovaries remain unaltered till December, when an exudation forms on the uterine walls, the tube becomes wider; one ovary is usually seen surrounded by the fimbriæ, and a Graafian vesicle somewhat more developed. Soon after, the ovum passes through the tube into the uterus, a corpus luteum is found, and by the middle of January the delicate embryo is found in the uterus, though unattached to its walls.

Allantois in human embryo.—In some very young human ova examined by Coste, he has been able to prove the existence of the allantois preceding and forming the basis of the umbilical cord, as in other ova, in contradiction to Velpeau, who, having never seen a human embryo before the complete formation of the cord, thought it must exist at all periods of gestation, and mistook what he called *masse reticulée* between the chorion and amnios for an allantois. In an embryo of ten days old, Coste found both this *masse reticulée* and an allantois, which latter he proves in a second embryo to be developed into the umbilical cord. This view of the development is supported by Müller's examination of the preparations of extremely young embryos in the Berlin Museum.

Structure of umbilical cord.—Flourens, who has instituted examinations of the cord in pigs, describes five layers as surrounding its vessels, of which the outermost, belonging to the amnios, is continued into the epidermis, and the next, which is the inner lamina of the amnios, into the corium; beneath these are two layers of cellular tissue belonging to the chorion, one of which passes into the subcutaneous cellular tissue of the abdominal walls, and the other into the aponeurosis of the abdominal muscles, while a fifth cellular

lamina is continuous with the peritoneum. The laminae have the same arrangement in Ruminantia, Rodentia, and Carnivora. In man he found two laminae of the chorion and two of the amnios.

Development of the eye.—Huschke considers the capsule of the lens to be formed by the protruding inwards of the integuments. The retina is originally a saccular protrusion of the brain, communicating with the cavity of the brain itself by the tubular optic nerve. The common integuments, turning inwards to form the capsule of the lens, push in the anterior arched surface of this nervous sac, and as they proceed carry it before them, reflecting it into the posterior part, so as to double the sac till it resembles the arrangement of a serous membrane. Of the two layers thus formed, and in contact, the outermost forms the retina, while the inner becomes the membrana Jacobi. The anterior opening into the capsule from the common integuments was sufficiently large on the third day to admit a human hair. His examinations were made on birds, and he has confirmed in them the existence of the fissure which Von Baer regarded as a thinned part of the retina, but which he says is the gaping of the fold produced by the reflexion of the primary sacculus of the eye by the capsule of the lens as above described, but which consisting of two layers on each side, does not communicate with the hollow optic nerve.

Pathology.—Müller remarks, in commencing his retrospect of the progress of Pathology, the difficulty of giving any account of a science in which so few extended examinations are instituted, and to which, for the most part, single accidental cases are the principal contributions. However singular many of these isolated cases may be, the manner in which they are too often related without reference to the analogous observations of others, and without any attempt at arriving at any conclusions by the accumulation and comparison of numerous similar cases, renders them comparatively useless; while their number and dispersion defy arrangement. The whole annual amount of the periodical contributions to the pathological anatomy are not worth so much as "the Medical Reports of a Bright, or the labours of a Cruveilhier." No one subject has been completely illustrated. Numerous as are the points which require separate and careful investigation, we look in vain for an account of one disease equal to that of the dropsy, with albuminous urine, of Dr. Bright, or of the phlegmasia alba dolens of the English physicians—the phlebitis and so-named purulent metastasis of the English and French physicians—the diseases of the brain by Abercrombie—of the

spinal cord by Ollivier—of the nerves by Charles Bell—or of tabes dorsalis by Horn. On looking through his retrospect, the authors remarks are, indeed, found fully confirmed; for, with the exception of Dr. Carswell's Illustrations and Chomel's remarks on typhoid fever, we can find scarcely an instance of any thing like a good systematic production on pathology. In many parts it is little more than a catalogue *raisonné* of cases published in journals; many of them totally devoid of interest, many erroneously supposed to be discoveries, and many very ill described. We shall therefore abstract only those parts which present considerable interest, omitting many which are already well known in this country from the French, and still more which have been copied from our own journals; among which we may be allowed to observe, with satisfaction, that those copied from the MEDICAL GAZETTE considerably exceed, in number and value, those of which any other journal has been the source. On the whole, it is evident that the condition of pathology among the Germans is very far behind that to which anatomy and pathology have attained. We can find no name here whose repute can compare with that of Müller, or of Tiedemann; and the absence of some ruling master-hand is but too clearly seen.

Cyclopin.—In an extended analysis of a work, by Vrolik, on this monstrosity, in which he has arranged the cases in five classes, according as the malformation is more or less complete, some important conclusions are drawn; among them are the following:—That absence of the olfactory nerve is not necessarily connected with cyclopin, as Tiedemann and Gurlt supposed, and that in general the condition of the olfactory organ bears no definite relation to this monstrosity. The most frequent complication is want of the lower jaw, absence of oral aperture, and union of the ears; which, with many others of less importance, prove the cause of the malformation to be a general one. It is shown, too, that the deficiency of the nerves is not the primary cause of deficiency of organs; for the absence of the olfactory does not always induce absence of the nose; only one eye ball has been found with two optic nerves, and double eye-balls with a single optic nerve; and in a dog without extremities, the nerves of the cervical and lumbar regions were well formed. The author considers cyclopin as the result of arrested development, but he does not deny the possibility of its being produced by the union of parts previously separated; though this is rendered improbable by the small size of the eye when really single—that is, having

none of its internal parts doubled with single eyelids.

Congenital anchylosis.—Phöbus describes the skeleton of a man, 30 years of age, in which the os lunare and os cuneiforme were completely united, without any trace of previous disease, and in which the second and third cervical vertebræ were joined by the whole length of their arches, so that there was only a slight fissure marking their division by the side of the spinous process. The bodies also were united by a bony mass apparently of later formation, as the fibres of the ligamentum intervertebrale were still visible. The left tip of the spinous process of the third vertebra was incomplete, while that of the second was unusually large. From this and other cases the author considers the malformation to be produced before ossification is complete, and therefore proposes to call it synostosis congenialis, in opposition to synostosis acquisita, or common anchylosis.

Double uterus and vagina.—Scheider relates a case of a woman, who, six weeks after marriage, bore a four-months' child, and forty weeks after marriage mature twins. On examination, the uterus and vagina were both found double; each vagina had a separate orifice.—(See also Cases, by Mr. Adams, MED. GAZETTE, March 1834.)

Malformation of the urinary bladder.—Leichter describes the following singular malformation in a female child, three months old. There were two ureters to the left kidney, one arising from a membranous expansion at the upper part. The bladder opened externally by a prolonged neck without a urethra, but its base and body were well formed. In its interior there was a second urinary bladder, of a similar form, united by a small portion of its body to the inner surface of the outer and larger; its neck and base were free. The former opened close behind the corresponding opening of the other. This internal bladder had thin walls, but evidently a muscular coat, and had been inflamed, though the outer one had not. The uppermost ureter of the left kidney passed into the outermost bladder; the lower passed in at the part where both bladders were connected internally.

Influence of nerves on the union of fractures.—Koning's experiments to illustrate this point show that in a rabbit, in which both the tibiæ were broken, after the ischiatic and crural nerves on the left side had been divided, after 48 hours extravasation of blood and inflammation of the periosteum and bone were found in the right limb, but only a little reddish serum, and the periosteum and bone remaining white on the left. In another similar experiment, after seven weeks, the fractured extremi-

ties of the right tibia were quite united, while on the left there were found only some thin porous bony lamellæ, a spongy kind of tumor projecting from the medulla, and the lower end of the bone softened and thinned. On pushing some charpie into the medullary cavity of another tibia, to excite inflammation, after division of the nerve, it was found that at the end of eight weeks the bone was surrounded by porous osseous substance, the medullary cavity contained no medulla, and the dead bone was not separated from the new. But in the two latter experiments, the extremities of the nerve having re-united, the nervous influence was, perhaps, not completely removed.

Softening of the stomach by its own secretion.—Among forty-eight cases of softening, sometimes accompanied by perforation of the stomach, which Rapp had examined, he says he saw signs of inflammation of its mucous membrane in only one. After perforation, the neighbouring parts were often found softened to a jelly, but he does not believe it to be the result of the secretion of gastric juice, because not unfrequently portions of the small and large intestine, “nay even of the lungs, are found similarly degenerated. He often found in all the pulmonary lobes portions of the size of a bean and larger, converted into brownish or yellowish-brown masses. There was neither inflammation nor extravasation round them. Their presence was indicated by bladders of air collected on the surface beneath the pleura.”

Peculiarities of form of skull in hunch-backs.—By accurate measurements of the skull of hunch-backed persons, Stern finds that the length and height of the cerebral portion is greater, and the breadth not less, than in well-formed persons, so that on the whole their brains are larger. The facial portion, on the contrary, is less in height, and still more evidently so in breadth; the cheek-bones are peculiarly flat, and lie towards the side of the face, so that the temporal fossa is narrow, and the upper and lower jaws are compressed from right to left. The upper jaw, therefore, projects forwards, and the facial angle is smaller than in normal skulls. The foramen occipitale lies further forwards, and is not the deepest part of the skull, for the occipital bone arches much lower down at its base. He remarks also with Mr. Shaw (*MEDICAL GAZETTE*, 1835, April and December), on the proportional length of the extremities (especially the upper), and of the foot.

Structure of warts.—Ascherson describes warts as divisible into two classes—the simple and compound. The former he divides again into filiform, which he says are not mere horny formations, but pro-

longations of the skin, and of the same colour with it; and the flat, which vary from the size of a pin's head to that of a lentil, are roundish, usually yellowish-brown, rarely reddish, and seem to consist of the rete Malpighianum and the cuticle. The compound warts consist of a horny, transparent, uneven mass. On their transverse section one sees a homogeneous reddish substance, in which single large bleeding points appear. If medically treated, the mass, which before seemed connected, generally separates into a number of perpendicular prismatic or pyramidal bodies. Each of these has its own thickened cuticle. The author regards these as separate diseased papillæ, at first held together by the dense cuticle at their common base, which is rarely wanting; and in regarding this as their nature, he is confirmed by the great pain they give when cut. Their further relation to the nervous system is shown by several circumstances, especially by their appearance and disappearance under the influence of mental impressions, and by a case where, after an injury to a nerve, warts were formed directly on the cicatrix.

Ossification of muscles.—Rogers (*American Journ. of Med.*) relates a remarkable ossification of nearly all the muscles of the shoulder, the latissimus dorsi, sterno-mastoideus, and pectoralis major, in a child thirteen years old. The osseous deposition formed great irregular elevations, especially numerous on the back, the latissimus dorsi appearing changed into great bony lamina. The scapula was immovable on the ribs; the motion of the arm very limited, and of the lumbar vertebræ altogether prevented. Nothing was known of its cause.

Formation and characters of tubercle.—The principle results which are mentioned of the examination of this morbid product by Rouchoux, Kuhn, and Sebastian, are, that they originate in minute jelly-like corpuscles of 1-12th or 1-10th of a line in diameter, homogeneous, without vessels or nerves, and loosely connected to the surrounding tissue by delicate filaments. As they increase they become confluent, and form miliary tubercles, as they are called, when they attain a certain size, or additional matter is deposited on the exterior of individuals. Kuhn regards them as hydatids. Preuss gives a detailed analysis of tuberculous matter, which, he says, contains—

Water.....	79.95
Tubercular matter	13.52
Adventitious, fibrous, and cartilaginous matter....	6.53

Tubercular matter contains, according to him, casein, cholesterine, oleic acid united

to soda, and a peculiar matter resembling osmazome, but not, like it, precipitable by tincture of galls (he calls it phymatine); also muriate, lactate, sulphate and phosphate of potass, phosphate and carbonate of lime, oxide of iron, magnesia, and traces of sulphur. The pus of scrofulous abscesses only contains casein, probably in the flocculi, which may be casein precipitated by the internal development of acetic acid. Pus and tuberculous matter both contain oxide of iron, whose discovery in their ash by ferro-cyanate of potass, will distinguish them from mucus*.

Worms in expectorated blood.—Delle Chiaji had made known some observations by Folinea, confirming the occurrence of polystoma sanguicola (*Treut.*) in the blood expectorated by phthisical patients. He considers its habitat to be the pulmonary parenchyma, from which it passes into the blood through the ruptured vessels. The expectorated worms adhere close to the walls of the vessel which receives the expectorated matter, and resemble a little drop of blood, but have a darker colour. When contracted, they are three lines long and two broad, and when distended ten lines long and three broad. They move like leeches, and appear annulated like them.

Extra-uterine foetation (singular case of).—Drejir describes a case where the foetus was developed in the right fallopian tube, which burst at the fifth month. On examination a corpus luteum was found in the left ovary, but none in the right. How the ovum could have passed from the left tube across the uterus into the right, remains a question. The connexion of the latter with the uterus was abnormal, joining it at the union of the body and the neck.

MEDICAL RELIEF OF SICK PAUPERS.

To the Editor of the Medical Gazette.

SIR,

SEVERAL communications, containing suggestions with regard to medical relief for sick paupers, have been made to the Secretaries of the Provincial Medical and Surgical Association, as well as to the Poor Law Committee of that Association; and they have authorized me to submit some of these papers to the editors of the

principal weekly medical journals for publication, thinking it desirable that every opportunity for discussing this important and difficult subject should be afforded at the present juncture.

I now, therefore, beg to forward a communication from Dr. M'Cabe, of Cheltenham, and request the favour of your inserting it in an early number of the *MEDICAL GAZETTE*.—I am, sir,

Your obedient servant,

H. W. RUMSEY.

Chesham, June 3, 1837.

REMARKS upon the NEW POOR LAW AMENDMENT ACT, with reference to the Sick Poor—*The Medical Contract, Club, and Self-supporting Dispensary Systems considered—Objections to them stated, and a plan founded on different principles suggested to the Provincial Medical and Surgical Association.* By JAMES M'CABE, M.D., Cheltenham.

From the Report of the Poor Law Committee appointed by the Provincial Medical and Surgical Association, and to which the secretaries have directed the attention of the members individually, it appears that the Poor Law Commissioners, and their agents throughout the country, are just now in direct hostility with those members of the medical profession who have hitherto had charge of the sick poor.

This attempt on the part of the Poor Law Commissioners to dictate to a liberal profession the terms on which they shall perform their professional duties towards the poor, and the remuneration which they shall receive for their performance, is no doubt in a great measure owing to the folly and indiscretion of some of its own members. The anxiety too often evinced by medical men to offer to the public their gratuitous services, necessarily lowers their value in public estimation, and diminishes by so much the amount of good they might otherwise confer on the public: owing to this cause, no doubt, it is, that during the prevalence of fatal epidemics, medical men too often become objects of suspicion to the people. This appears to have been the case in every country that has been hitherto visited by the epidemic cholera. The people cannot understand why medical men should be so anxious to risk their lives and injure their health without any remuneration; and as they cannot bring themselves to refer it to philanthropy, they at length begin to suspect the purity of their motives, and to imagine that self-interest, and not benevolence, must be the actuating principle: as they cannot perceive what medical men can gain by their recovery, they begin to think that their recovery is not desired, but that their death

* We omit to notice here the classification of tumors founded on their minute structure, which was presented by Professor Müller to the Berlin Academy of Sciences, December 1836. On a future occasion we hope to give a detailed analysis of it.

must be the source of profit, by the sale of their dead bodies. The consequence has invariably been, that when the services of medical men have been most needed by the public,—when disease and death have been dealing their shafts around,—in fact, when the members of the medical profession might confer on the public the greatest benefits—the benefits of life and health,—their proffered aid is frequently refused, their motives suspected; and where they endeavour to force their services on the public, they too often fall victims to their own zeal, and are sacrificed by an excited and deluded people.

In making these reflections on the melancholy consequences which sometimes result from the indiscreet zeal of some of the members of the medical profession, it is not my wish to lessen in any degree that real benevolence for which, I am proud to say, the medical profession has always had credit with the discerning portion of the public; but (as is justly observed in the Report of the Poor Law Committee) as medical men bear an equal proportion of the expense of the support of the poor, with other members of the community, it is not expected, nor does it appear to be received without suspicion by the people, that they should so far monopolize public benevolence as to devote, gratuitously, their time and talents to the performance of public and important duties which ought to be performed at the expense of the public.

Diseases can never be successfully treated unless the patient have confidence in his medical attendant; and where medical attendance is not sought for, but is volunteered or forced upon the patient, the patient will seldom be benefited by it. It is not in religion only that faith is necessary,—it is also necessary in medicine. This brings me to the consideration of the question of medical contracts, than which a more inhuman system was never devised, or one more directly opposed to true philanthropy. The poor man is entitled by law to medical assistance whenever he really requires it; and, provided he does not put the parish or union to unnecessary expense, by sending to a distance, but applies to one of the nearest practitioners, why should he be deprived of that privilege?—why should not the poor man, when ill, and having faith in a neighbouring practitioner, have the benefit of his advice?

Medical aid, in order to be useful, must be prompt; and although it should never be forced upon a patient, or even, perhaps, volunteered, when required, it should, if possible, be at hand; and the poor man, as well as the Poor Law Commissioner,

should, subject to the restrictions above mentioned, have the privilege of choosing his medical attendant.

Under the system of medical contracts, medical aid can seldom be prompt; and therefore can seldom be efficient. While the favoured contractor of the Poor-law Commissioners may perhaps be engaged in ascertaining the boundaries, or learning the topography of some extensive union to which he may have been appointed from Somerset House, and with the inhabitants and localities of which he may be totally unacquainted, accidents or sudden illness may occur at different and distant points of his extensive district; and unless some of the nearest practitioners lend their benevolent aid, some of the poor entrusted to his care must necessarily be neglected.

With respect to the Medical Clubs and Self-supporting Dispensaries, they appear to me to be founded on erroneous principles. With the exception of the trifling sums contributed to them by benevolent individuals, under the designation of honorary subscriptions, they are based on the principle of a poor man, when in health and able to labour, contributing a part of the produce of that labour, for the relief of another poor man, not perhaps poorer than himself, but who happens to require medical assistance. Was not this one of the most unjust and most obnoxious of the principles of the old Poor-law system? that by which able-bodied labourers were made to contribute indirectly, by their labour, to the support of the parish poor. If an able-bodied and industrious labourer or artisan can save something from the produce of his industry when in health, it may generate in his mind a feeling of independence, and a desire to accumulate his savings, in order to maintain that independence, which feeling will probably lead to economy and temperance, and consequently will tend to the preservation of health; but if instead of this, he becomes involved in the meshes of a weekly insurance on his health, in which the club and dispensary systems essentially consist, annoyances will frequently result, from the difficulty of meeting his weekly engagements, and from the frequency of their recurrence; and should he be overtaken by disease in the midst of his difficulties and annoyances, the medical aid which his insurance has secured to him, is only one item in the catalogue of his necessities, and the poor-house after all may be his refuge, whoever may be his medical attendant.

Having stated thus briefly the objections which have occurred to me against the system of medical contracts, and against the club and dispensary system, I come

now to the most difficult part of the subject—that is, to endeavour to suggest a remedy. The conflicting interests with which the question is surrounded, renders this a difficult matter; I therefore approach it with great diffidence. It is easy to demolish systems, but difficult to re-construct them; and whatever plan may be recommended by the Association, or suggested by any of its members, should it occasion an increase of expense for medical attendance for the poor, will be opposed by the rate-payers and Poor-law Commissioners.

In the Report of the Poor-law Committee, an application to the legislature is recommended, to fix and sanction a rate of remuneration for medical attendance on the poor. It is probable that the legislature would refuse to comply with such an application, and for the following reasons:—A physician's fee is an honorarium, recognized by custom and usage, but not recognized by law. The remuneration for surgical operations, and the charges of a general practitioner for attendance and medicine, if disputed and referred to the legal tribunals of the country, are determined and awarded by a jury on the principles of equity, as a reasonable remuneration for services performed, but without any attempt to define the value of each particular attendance. As the law, therefore, has not hitherto defined any specific remuneration for medical attendance, but has left it in a great measure to the honour of the parties concerned, it is probable that the legislature will refuse to entertain the question with reference to the poor, and will leave it, as it has hitherto been, a question for custom and usage to decide upon; or in case of disagreement between the parties, to be referred to the legal tribunals of the country, where a jury may exercise a salutary discretion in making an award, under the guidance of custom and usage, combined with the principles of justice and equity.

Believing, therefore, for the reasons stated, that the legislature will refuse to interfere between the Poor-law Commissioners and the members of the medical profession, and objecting as I do to medical contracts, clubs, and self-supporting dispensaries, I venture to suggest, through the medium of the Association, a different plan, and one based, as it appears to me, on less objectionable principles. It is simply the adoption, by the profession generally, of the same system with regard to the poor as custom and usage have established with respect to the community at large. Let medical attendance be neither forced nor volunteered, but let it not be withheld when required and sought for by

the poor themselves, and let a reasonable remuneration for such attendance be claimed from the Boards of Guardians. It is probable that the Boards of Guardians would readily agree to pay any reasonable remuneration, as they are required by law to procure medical attendance for the sick poor; but should a reasonable remuneration be refused, it would probably be awarded by a jury in a court of justice.

In order to prevent unnecessary expense to the rate-payers, and unnecessary expense and labour to the medical practitioner in travelling over extensive tracts of country, as is done under the present system, in visiting the sick poor, I propose that the choice of the medical practitioner shall be left to the poor themselves, provided that the choice be made from among the nearest practitioners. This arrangement would give the poor man greater satisfaction, and would secure to him more prompt and efficient aid when necessary; it would, besides, be less expensive to the medical practitioner, and consequently to the rate-payers; for the remuneration which might be considered reasonable and sufficient for attending a case of illness near his own residence, would be very inadequate to remunerate a medical man for attending a similar case at the distance of several miles.

In accordance with the principle of proximity, I propose that whatever medicines may be required for the sick poor shall be procured from the nearest chemist or druggist; and that there may be no cause even to suppose that unnecessary quantities of medicines are prescribed, there should be no partnership or other professional connexion between the chemist or druggist and the medical attendant, but the chemist or druggist must look to the Board of Guardians, and not to the medical attendant, for a reasonable remuneration.

The greatest difficulty which at present occurs to me with regard to the plan proposed would be the difficulty of defining and ascertaining who are the poor entitled to medical relief when requiring it, and for whom the Board of Guardians are considered legally responsible. Even under the present system few medical practitioners refuse their advice gratis to any poor person who states that he requires medical advice, but cannot afford to pay for it; and therefore, should medical men occasionally attend cases under the system which I propose, for which the Boards of Guardians may not consider themselves responsible, and for which they may think themselves justified in refusing any remuneration, the medical attendant must rest

satisfied with having performed a benevolent service to the poor, and the chemist or druggist must be content to place his account among his bad debts, on the debtor side of profit and loss.

It is perhaps sufficient, for the present, to have thus briefly sketched an outline of the plan which is here submitted for the consideration of the Association. Should it be entertained and considered capable of being adapted to the end proposed, there are no doubt many of the members who, from their more intimate acquaintance with parishes and unions, and a more practical knowledge of the working of the Poor-law system than I possess, would be better qualified to fill up the details, so as to obviate any difficulties which at first sight may appear to be opposed to its adoption. The first great advantage that would attend its adoption would be the settlement of a difficult and perplexing question, without the mortification of making an unsuccessful appeal to the legislature, and without submission to the demands of the Poor-law Commissioners, but simply by the assent of the medical body to the recommendation of the Association. It is reasonable to suppose that the poor would be better satisfied with the plan proposed than with the present system; and it is hoped that it would obviate much misunderstanding, much rivalry, and much jealousy, among medical practitioners, which the systems of contracts, clubs, and self-supporting dispensaries, are well calculated to engender. Should it accomplish these objects even in any reasonable degree, it would tend to promote harmony and good-will among the members of the medical profession, which would increase its respectability, and consequently its usefulness, not only with regard to the poor, but to the public generally. These were the ostensible, and indeed the legitimate objects, for which the Association was originally formed, together with the advancement and improvement of medical science; and surely medical science can best be improved by promoting harmony among its members.

CASE OF TUMOR OF THE RIGHT AXILLA;

WITH PASSAGE OF THE PUS INTO THE PECTORAL CAVITY.

A GIRL, aged 15, two of whose sisters had died of phthisis, was admitted into the Hôtel Dieu, with a swelling in the right axilla, and sharp pains in the lateral and anterior parts of the chest. The case was at first treated as one of pleurisy, by blood-letting; but on fluctuation becoming evident, it was transferred to the surgeon.

At that time she said that she had been quite well six days before, and had no cough, but had been seized with pains in the shoulders and under her arms, which rapidly increased; her breathing was easy.

There was a diffuse swelling, rather than a tumor, involving the axilla and upper lateral portion of the chest; fluctuation was distinct at several points, and she made 30 inspirations in the minute; the pulse was small, hard, and frequent, at 104. A large incision was made in the tumor under the axilla, and an immense quantity of healthy purulent fluid escaped. At each expiration the pus escaped in a jet, while during inspiration the air entered the opening, and caused a whistling sound. At two feet distance from the patient a remarkable gurgling sound was heard, which was louder when the head was applied to the chest. Attempts to cough expelled the pus with force; the respiration was not accelerated. At the time, M. Blandin, by means of a sound, satisfied himself as to the communication of the abscess with the cavity of the chest. At first she appeared a little better; but in spite of the means adopted to make the abscess heal, she gradually sunk. On examination after death, the abscess was found to extend widely under the pectoral and other muscles, and to communicate with the chest by nine or ten fistulous openings, which varied in size, the largest being about the size of a six-sous piece. The right lung was adherent in many points, and the adhesions were so arranged as to divide the right side of the chest into two cavities, an inferior and a superior, communicating by a round opening, large enough to admit the finger. These adhesions, though firm, were not old. The costal surface of the lung was covered with false membranes, and was ragged. The body of the lung was gorged with blood, and firm on the costal side, where there were four small abscesses, the size of hemp-seed. The rest of the lung, with the exception of a few tubercles, was healthy and crepitant. The left lung was sound. The liver was granular and soft. The spleen was soft, and had on its surface two abscesses in an early stage.—Condensed from the *Gazette Médicale*.

ORGANIZATION OF THE ROTIFERA.

THE following is an account of M. Dutrochet's observations on the *Tubicolaire quadrilobé* of Lamarck, read before the Académie des Sciences. The mouth of the animal is at the bottom of a tube, in which the globules of green matter floating in the water precipitate themselves by the

disturbance produced in this liquid, by the rotatory organ which crowns the tube. When magnified by 300 diameters, this organ looks like the ruff of Henry the Fourth's time, an appearance produced by the rounding of the external folds: each of these folds is constantly changing the portion of tube which forms it; each fold borrowing from the one next it on the right. The undulatory motion of these folds is supposed to be the movement of the matter of which they are composed.—*Gazette Médicale*.

INJECTION OF PLANTS WITH COLOURING MATTER.

M. BIOT, finding that the juice of the plant *Phytolaca decandra* had more than a century ago been employed in injecting and colouring plants, lately made some experiments with it, which he communicated to the Royal Academy of Sciences, of Paris. Some plants easily received the injection, while others entirely refused it, and this without any assignable reason. A few minutes were found sufficient to streak with a number of small red lines all the petals of a white monthly rose, while no effect was produced on a white moss one. Many similar anomalies were observed. M. Biot succeeded in injecting white hyacinths in this manner. No colouring matter appears to be so well suited for the injection of plants as the juice employed in these experiments.

HYDROCHLORATE OF GOLD, ACIDIFIED WITH NITRIC ACID.

M. LEGRAND has used this substance as a caustic for several years, and has a high opinion of its usefulness. It causes no pain when applied to the skin, and hardly any when applied to a mucous membrane. When applied to unhealthy surfaces it penetrates them, causing a good deal of pain, but its spreading is always prevented by the sound parts. It has been found particularly useful in syphilitic, scrofulous, and scorbutic ulcers, and has been applied with advantage to cancerous growths, and ulcerations of the neck of the uterus. In a variety of similar cases it has been found of use, and is certainly deserving of trial. It is used in the form of solution.—*Bulletin Génér. de Thérapeut.*

MICROSCOPIC CRYSTALS IN THE HEART.

A SHORT time ago, an account was given in the MEDICAL GAZETTE of the discovery of microscopic crystals in the alvine evacuations, by M. Gluge. Since that time,

it appears from the Gazette des Hôpitaux that he has discovered minute crystals in the heart of a woman, which had its surface, along with the valves and the muscular substance, covered with an immense number of small hard and white granules. The crystals were of different forms—some of them rhomboidal: they were pellucid, fragile, and of very variable diameter. They were joined together into groups of fifteen or twenty by an uniform yellowish matter. This disposition of crystals is very curious, and cannot at present be explained. It is worth while to observe, that the disposition of these crystals a good deal resembles that of the crystals in bile. The whole subject is curious, and its investigation may lead to the knowledge of certain purely chemical processes in the body hitherto overlooked. M. Gluge has also lately observed similar crystals in the substance of the brain.

ELEPHANTIASIS OF THE SCROTUM, TREATED BY IODINE.

SHAIKH AMEER ALI, æt. cerciter 40, a robust soldier of the Governor General's Body Guard, of healthy constitution in other respects, had for some months experienced irritation and pain, with tumefaction of the scrotum, whilst riding his horse. The tumefaction gradually increased, and extended to the whole of the penis, the enlargement and weight being considerable. He was admitted into hospital a few days previous to my receiving charge; Mr. Chapman had commenced upon the iodine, prescribing an ointment of the hydriodate of potass, but the remedy had not at that period had time to produce any remarkable effect on the disease. It gradually did under a perseverance in the above, adding the iodine, as in the following formula:—

Iodine, ℥i.; Hydr. Potassæ, 3ss.; Adisis Suillae, ʒij. M. ft. unguentum.

Administering the tincture likewise, commencing at five drops and increasing the dose guttatim.

The benefit has been extensive and rapid, reducing the tumor, in the course of twelve days, to one-half of its size, and affording every prospect of a complete cure.

The case decidedly confirms the great power of iodine over the disease, as first adopted by Dr. Stuart.

Dr. Stuart's treatment appears to have been successful in the tubercular, the ulcerated (*Joozzam* of the Arabians), and every variety of the disease, excepting the white stain, or leprous spot. The perseverance with the white oxyde of arsenic, the black pepper, and mudra, in repeated and gradually increased doses, has cer-

tainly checked the progress of the disease, when preceded by antiphlogistic measures, the administration of cathartics and sudorifics, and careful attention to diet; but bears no comparison with the remedy now proposed to the profession as a specific. — *Mr. Brett, in Indian Journal.*

OPERATION FOR CAPSULAR CATARACTS.

MR. BRETT, in a recent number of the *Indian Medical Journal*, says—“Experiencing these difficulties in common with my professional brethren, it occurred to me that this object might be accomplished by an incision at a point of the sclerotic, midway between the transverse and perpendicular diameters of the eye, towards the external canthus, at about a line and a half from the junction of the cornea with the sclerotica, the incision being of full two lines in length, introducing a hook through such incision, seizing and *withdrawing* the cataract, which will be found to be a dense membrane, of the consistence of silver paper, though more opaque. The wound on the sclerotica is not greater than that accomplished by the native oculist with the lancet he employs for depression. The hook is carried directly upwards, with its convexity somewhat inclined forwards; its point is then immediately directed backwards, the capsule pierced and carried simultaneously downwards and outwards, and the operation accomplished—*tuto, cito, et jucunde*. No difficulty is experienced in the healing of the sclerotica.

The surgeon may apply a thread round the knife, to limit the depth and extent of the incision, and an ordinary but new lancet will answer the purpose equally well. The pupil should be well dilated. The claims of this operation to preference are, that it is simple; that the disease *is at once removed*; consequently no repetitions; and the pain, inconvenience, tedious treatment, and debility of our patient, are obviated, and the ciliary processes are not wounded, nor the delicate nervous structures interfered with, which is not the case under the constant and free movements of a sharp needle in cutting up such a body,—a circumstance unavoidable in order to reduce it to fragments. I submitted to surgeons to test its merits by their own experience. I accomplished this operation in a case of congenital cataract existing as usual in both eyes. The first required by the old method three operations; the second was accomplished in the manner described, and with the most satisfactory result.

The surgeon should trust to no assistant, however skilful, in holding either of the

lids. I usually place the patient more gradually on his back, employing the hands of the assistant merely to secure the chin and head, and support both lids myself with the fore and second finger of whichever hand may chance to be free.

BRUIT DU DIABLE.

To the Editor of the Medical Gazette.

SIR,

MAY I request the favour of your inserting in the *GAZETTE* the following explanation, in reply to some observations made by Mr. Boulton, in the *GAZETTE* of April 22 (which from an accidental circumstance I did not see till yesterday), upon my paper on the *Bruit du diable*.

At the time I wrote that paper I had not Dr. Corrigan's own account of his experiments, and of the cause of the *bruit de soufflet*, before me, but I quoted from M. Bouillaud's work on Diseases of the Heart, in which he considers the anomalous sounds of the arteries as modifications of the *bruit de soufflet*; and although he mentions Dr. C.'s experiments, he omits his explanation, and asserts that the lax state of the parietes of the vessel is the source of the sound. In stating, therefore, as Dr. Corrigan's opinion, “that the *bruit de soufflet*, and others like it, arise from relaxation of the vessels,” I confess I was led into the mistake by M. Bouillaud's misrepresentation of Dr. C.'s experiment, and of the conclusions deduced from it; and I beg to return my thanks to Mr. Boulton for the gentlemanlike manner in which he has pointed out my error.

I am, sir,

Your obedient servant,

T. OGIER WARD, M.D. Oxon.

Birmingham, June 6, 1837.

COLLEGE OF SURGEONS.

LIST OF GENTLEMEN WHO RECEIVED DIPLOMAS IN MAY.

Frederick Warner, Bottley, Hants.
R. Waters, Exeter.
J. Smith, Nottingham.
J. Dawson, Swillingham.
F. Chapman, Kingston-upon-Thames.
F. J. Gillard, Brixham.
R. D. Mason, Ipswich.
W. Ellis, Newent.
H. N. Bower, Gloucester.
J. Anderson, Fintona.
G. Turner, Brewood, Staffordshire.
Pern Blundell, Newbury.
B. Walker, Royal Hospital, Chelsea.
A. Paul, Winchester.
C. Hallett, Axminster.
J. P. Sealy, Bristol.
W. Bush, Beach-Bitton, near Bath.
W. Garlike, Stroud.
T. Sawyer, Exeter.
J. R. Wells, London.

J. P. White, Egremont, Cumberland.
 G. Cooper, Exeter.
 W. B. Gaskell, Liverpool.
 C. J. Pinching, Gravesend.
 A. Francis, Utting, Maldon, Essex.
 C. Wright, London.
 C. Cowdell, Hinkley.
 W. R. Peck, Kimbolton, Hants.
 J. M. Jackson, Madras.
 J. Herriot.
 R. Latten, Colchester.
 J. J. Clarkson, Zealand.
 G. Lowe, Burton-on-Trent.
 M. Manger, Guernsey.
 C. Mollay, Castle Clary.
 T. Embling, London.
 T. Keele, West Down, Somersetshire.
 N. Whitchurch, Melton Mowbray.
 J. Breach, Aston, Berks.
 H. Mapleton, Exeter.
 J. J. Lawrence, New York.
 A. Corbin, Barbadoes.
 W. H. Floyer, Northampton.
 T. Clarkson, Harworth, Lancashire.
 C. Morgan, Lantwit Major.
 J. H. Bannister, Havant, Hants.
 C. W. Kent, Lincoln.
 J. R. Ollive, Barnstable.
 J. Parkerson, Norfolk.
 R. G. Wollaston, Ludlow.
 J. Buckland, Malmesbury.
 A. Baker, Birmingham.
 A. Smith, Bristol.
 M. Cooke, Langley, near Barnstable.
 W. Kershaw, Rochdale.
 W. Twining, Nova Scotia.
 M. J. Hiscox, Bath.
 H. Cuddon, Bungay.
 C. Nathan, London.
 E. Barrow, Wedmire, Somerset.
 F. H. Warren, Exeter.
 R. Lucas, London.
 J. Savage, Newry.
 H. Shiel, Castle Dawson.
 T. Land, Leeds.
 John Allanson, Bury, Lancashire.
 J. Anthony, London.
 T. Booth, Driffield, Yorkshire.
 W. C. Haines, Hampstead.
 A. Woodhouse, London.
 W. J. Jones, Fleet-street.
 Thomas Yate, Madeley, Salop.
 W. Lees, Manchester.
 R. J. P. Steel, London.
 F. S. Finlay, Dublin.
 E. Donaldson, Buttevant, Cork.
 J. J. Dallas, Barbadoes.
 W. Cross, Clifton, Bristol.
 W. Cheesewright, Bristol.
 W. Matterson, York.
 T. Evans, Cardiff.
 J. B. Pitt, Worcester.
 J. M. Appleton, Stokesley.
 J. W. Boyd, New Ross.
 W. Boles, Limerick.
 H. C. Harris, London.
 C. J. Hawkins, Cheltenham.
 J. J. Jackson, London.
 J. P. Langshaw, Lancaster.
 E. H. S. Banks, Folkeston.
 F. Cox Barham, Kent.
 S. K. Russell, Shrewsbury.
 W. Pyke, Wootton Rivers, Wilts.
 H. R. Cooper, Newport, Salop.
 J. T. Wollaston, Hereford.
 R. Hutchinson, Liverpool.
 E. Pickop, Blackburn.
 C. Pritchett, Ratcliffe.
 R. Saug, Coldstream, Berwick.
 J. Hullock, Stockport, Cheshire.
 E. Gill, Skipton-in-Craven.
 T. F. G. Brownbill, Manchester.
 W. G. Jalland, Nottingham.
 H. J. Watkinson, Halifax.
 E. Young, Newton Abbot.
 C. R. Nicoll, Derby.

Peter Berrell, Dublin.
 H. Savage, Thetford, Norfolk.
 W. Oldacres Gonalston, Notts.
 W. W. Williams, Dursley.
 B. Haynes, Bedford-court, Covent-Garden.
 J. J. Dolman, Melbourne.
 R. H. Morton, Great Yarmouth.
 W. Carr, Hunslet, Yorkshire.
 H. Oldham, Upper Tooting.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, June 8, 1837.

Frederick Flower, Overton.
 William Bedford Kesteven.
 Michael Cooke, Langley, Barnstable.
 William Knight Sargent, Liskeard, Cornwall.
 Henry Landor, Poynton, Cheshire.
 William Parker, St. Helier's, Jersey.
 John Allanson, Bury, Lancashire.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, June 6, 1837.

Abscess	3	Bowels & Stomach	5
Age and Debility	37	Brain	7
Apoplexy	4	Lungs and Pleura	11
Asthma	12	Influenza	3
Cancer	1	Insanity	5
Childbirth	5	Liver, diseased	2
Consumption	77	Measles	20
Convulsions	46	Miscarriage	1
Croup	1	Mortification	4
Dentition or Teething	17	Paralysis	4
Dropsy	16	Small-pox	5
Dropsy in the Brain	14	Sore Throat and	
Dropsy in the Chest	1	Quinsey	1
Fever	15	Spasms	3
Fever, Scarlet	6	Thrush	2
Fever, Typhus	7	Tumor	2
Heart, diseased	2	Unknown Causes	14
Hooping Cough	20		
Inflammation	40	Casualties	14

Increase of Burials, as compared with } 186
 the preceding week }

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
 Longitude 0° 3' 51" W. of Greenwich.

June.	THERMOMETER.	BAROMETER.
Thursday . 1	from 42 to 63	29·88 to 29·89
Friday . . 2	38 60	29·91 29 93
Saturday . 3	39 63	29 90 Stat.
Sunday . . 4	28 66	30 01 Stat.
Monday . . 5	39 73	30·07 30·04
Tuesday . . 6	41 69	30 02 30·07
Wednesday 7	30 61	30·10 30·07

Prevailing wind, N.W.

Except the mornings of the 1st and 3d, and the evening of the 5th, when rain fell, generally clear. Lightning and distant thunder in the east and south on the evening of the 5th.

Rain fallen, ·525 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

Dr. Budd's answer to Dr. Williams was received too late for insertion in the present Number.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JUNE 17, 1837.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE XV.

Hydriodate of Potash in Rheumatism—Sarsaparilla and Nitre in Chronic Cough—Remarks on Percussion—Clear Sound with solidified Lung—Fever with Cerebral Irritation—Employment of Tartar Emetic and Opium—Success of Turpentine.

I HAVE spoken on a former occasion of the utility of mercury in certain cases of rheumatic fever, where the inflammation of the joints will not yield to other means: I have now to add, that within the last year the hydriodate of potash has been found to be a most useful adjunct to mercury, and well calculated for following up and completing the beneficial effects produced by that remedy. In fact, in treating arthritic or rheumatic fever, when I have reduced the violence of the fever and of the inflammatory affection of the joints by means of bleeding and leeching, followed by tartar emetic or nitre, or both combined, or when after the antiphlogistic treatment, both local and general, I have produced a marked alleviation of the patient's sufferings, either by the use of colchicum or by the use of mercury combined with opiates,—then, I say, we can employ the hydriodate of potash with the greatest possible advantage, as it quickly dissipates the remaining pain and swelling of the joints, and contributes powerfully to bring the disease to a speedy termination, while at the same time it greatly diminishes the danger of a relapse. I have

experienced much comfort and feel much confidence in the treatment of rheumatic fever since I adopted this practice; and it now never happens to me to meet with cases which, in spite of all my efforts, become chronic, and confine the unfortunate sufferers to bed for months. You have observed, that in most cases of acute rheumatism affecting the joints, no matter what mode of treatment I adopt in the commencement and during the acmé of the disease, I generally complete the cure with the hydriodate of potash, beginning with doses of ten grains, which are quickly augmented to twenty or thirty grains three times a day. It is generally given in decoction of sarsaparilla, to which some preparation of morphia forms an useful addition.

Iodine and the hydriodate of potash exert a very powerful influence over scrofulous inflammation, but their influence, as has been proved by recent experience, extends likewise to inflammations connected with other states of the constitution, and they are frequently exhibited now with the best effects in certain varieties of syphilis, pseudo-syphilis, gout, mercurial cachexy, and rheumatism. The power of iodine in moderating mercurial salivation, and the severe ulceration of the mouth which frequently accompanies it, has been asserted by some and denied by others. Be this as it may, it certainly is an excellent adjuvant to our usual means for diminishing the pain and inflammation which attend periostitic affections, and many of the troublesome sequelæ of syphilis. I may observe also, that the hydriodate of potash has been found to prove a most valuable auxiliary in the treatment of chronic anasarca and of ascites; and Mr. Swift informs me, that he has employed it with the most satisfactory results in the dropsy of scarlatina, particularly in children of a weak and cachectic habit. He uses the hydriodate of potash in combination with liquor kali,

to which the tincture of digitalis is occasionally added.

I have been told likewise by some excellent practitioners, that they have derived much advantage from the ioduret of iron in rheumatic affections of the joints, after the acute stage has subsided. My own experience of the effects of this remedy is too limited to allow me to express any opinion on its merits.

Having spoken of mercurial salivation, it occurs to me this moment, that the remarkable fact of the difficulty of salivating infants and very old persons must depend in some measure on the undeveloped state of the parotid glands in the former, and their shrunken and atrophied condition in the latter. The apparatus connected with the insalivation of the food is comparatively but little required before the teeth appear in infancy, or after they have fallen in advanced age.

I wish now to make a few observations on the use of decoction of sarsaparilla and nitric acid in certain cases of chronic cough. The utility of this combination has been long recognized in cachectic states of the system and affections of the skin, whether syphilitic or mercurial; and it has also proved itself very efficacious in various species of sore throat, chronic pains, and other textural derangements of a slow and tedious character. The marked effects which the decoction of sarsaparilla and nitric acid produce in these diseases of the general habit, skin, and mucous membrane of the throat, led me to infer that the same combination might be employed with advantage in cases of chronic cough, attended with redness and relaxation of the mucous membrane of the fauces, elongation of the uvula, and some degree of general debility. I have observed that such cases are almost invariably accompanied by more or less derangement of the digestive organs and an irritable state of the general system; and from their analogy to other states of the constitution, in which nitric acid and sarsaparilla have proved extremely beneficial, I was induced to give this combination a trial; and I can now state that it has not disappointed my expectations. Decoction of sarsaparilla, given in doses of a pint daily, with a drachm or more of nitric acid, has proved a most useful and valuable remedy in the treatment of cases of this description. It is scarcely necessary to observe, that in addition to the use of this remedy, change of air, moderate exercise and recreation, and a nutritious, but not heating diet, are required. In some of these cases it will be also necessary to apply lotions of the nitrate of silver or sulphate of copper to the fauces and tonsils; and where the uvula is greatly relaxed, it will require to

be frequently touched with the nitrate of silver, or even to be shortened by an operation. Guided by the same principles, I have frequently exhibited decoction of sarsaparilla with nitric acid in cases of persons of a reduced and relaxed habit who are troubled with a slight but frequently recurring cough or hem, and the expectoration of a few bronchial sputa, occasionally mixed with blood, which appears to come, not from the lungs, but from the eroded mucous membrane at the top of the pharynx and larynx. In such cases I have observed that the cough and expectoration took place chiefly in the morning after awaking, and in some had continued for weeks without any dyspnoea, pain in the chest, or fever. I may also remark, that the same combination may be often given with advantage to patients whose mouths have been recently made sore by mercury administered for the cure of bronchitis or pneumonia, and will occasionally be found useful in removing the still lingering remnant of pulmonary disease, at a time when mercury could not be pushed farther with safety.

Speaking of pulmonary affections leads me to notice a collateral subject of very great importance: I allude to percussion, as a means of arriving at a true diagnosis in cases where solidification of the lung has taken place. It is generally believed, that in cases where the actual quantity of air in the lungs is morbidly increased or diminished, percussion furnishes us with means of information adapted to every variety of case, and capable of unlimited application. This, however, is not the fact. It is true that when percussion furnishes positive evidence of increased pulmonary solidity, we may be pretty sure that solidification exists; but such evidence is not furnished by percussion in every case of the kind indiscriminately, for it now and then happens that percussion elicits a very clear sound from the parietes of the chest, corresponding to considerable solidification of the lungs within. Of this I have now witnessed several instances. You will ask, how then are we to explain this apparent contradiction between the results afforded by percussion? This is a question of much importance, and I hope the solution which I am about to offer will be found adequate and satisfactory.

An old man, named Foy, died lately, at Sir P. Dun's Hospital, of hepatization of the inferior lobe of the right lung, with numerous tubercular depositions in the upper lobes of both lungs. During his illness, I pointed out the existence of extensive hepatization of the lower lobe of the right lung, in which perfect and decided dulness marked out accurately the

space occupied internally by the solidified pulmonary tissue. But anteriorly and above, the parietes of the chest returned a clear sound on percussion, nor could a vestige of dulness be any where detected. Yet the whole of the upper lobes of this patient's lungs were occupied to such an extent by crude tubercles, that no portion of the upper lobes could be selected, equal to half the size of a fist, which would not sink in water. This was owing to tubercular matter, which occupied the pulmonary tissue in detached infiltrated masses, or in single crude tubercles. How, then, did it happen that such extensive solidification of the upper lobes existed without any corresponding dulness on percussion? A careful examination of the pathological condition of these lobes satisfactorily explained the anomaly. On accurate inspection, we found that although the solidified masses of the pulmonary tissue were extremely numerous, and predominated over the parts which still retained their natural vesicular texture, so that an extensive portion of the upper lobes seemed to be quite solid, yet the solidified portions were insulated and divided from each other, throughout the interior of the lobe, by intervening laminae of healthy pulmonary tissue, and on their surface were, for the most part, covered by a stratum of healthy vesicular lung, from a quarter to half an inch in thickness. Indeed, although the solidified masses (to use a geological expression) sometimes cropped up, and came to the surface, yet this was comparatively a rare occurrence; and by far the greater portion of that surface was composed of a thin stratum of pervious vesicular tissue. To this was owing the clear sound elicited by percussion.

You will recollect, therefore, gentlemen, that in certain (I will admit rare) cases of tubercular deposition in the lungs, the tubercular development may have proceeded to the extent of rendering the greater portion of the upper lobes impervious to the air, and may have solidified those lobes considerably, and yet the solidified portions may be so divided from each other by laminae of healthy lung, and may be so covered by a stratum of vesicular tissue, that the general result of percussion is to elicit a clear sound over the whole of the parietes of the chest corresponding to the affected lobes.

Since our last meeting, some cases of fever have occurred in our wards, which have presented too many points of interest to be passed over without any observation. A very curious case occurred here, in a man named Toole, who was admitted on the 4th of January. This patient is a robust labouring man, about 30 years of age, and had been labouring under maculated fever

for ten or eleven days before admission. Of his history previous to admission we could learn nothing; but when he came under our care he appeared very ill, and exhibited great depression of the vital energies, so that we found it necessary to encourage reaction by the application of heat to the surface of the body, frictions, warm fomentations, and the internal administration of wine and carbonate of ammonia. On the following night reaction became established; next day he became irritable and restless, and towards night was seized with delirium. The nurse omitted to report his state to Mr. Parr, or the resident pupil; he was thus left without any treatment until next morning. Now, gentlemen, this is a matter of much regret to me, and I think I cannot do a more essential service to those who are about to enter on the practice of their profession than to impress, as strongly as I can, the indispensable necessity of watching fever patients with the most anxious and unremitting diligence. In a case of bad fever, a single visit in the day will never suffice; two, and even three, visits a-day will be required; and, when the patient is in a doubtful or dangerous condition, it will be often necessary to have a properly educated medical person in constant attendance, prepared to meet every emergency, and counteract or modify every unfavourable change. Fever will often run on for several days without any change calculated to arrest our attention, or call for the adoption of any new measures, and yet, in the space of six hours, an alteration may occur, of which the physician should have early and full information.

Well, this man remained without any treatment for several hours after delirium commenced. On the 6th, we ordered his head to be shaved and leeches, and prescribed tartar emetic, in doses of a quarter of a grain, every second hour. Next day we found him as bad as ever. The tartar emetic had failed in diminishing the cerebral symptoms, and his delirium had rather increased. We found also, on inquiry, that he had had no sleep for the last three nights. His pulse was weak and rapid, his eyes suffused, his restlessness and delirium such that he required a person to sit by him constantly, and prevent him from getting out of bed. Under these circumstances, we ordered five drops of black drop to be added to each dose of the tartar emetic mixture, of which he took an ounce every third hour, that is, about a quarter of a grain of tartar emetic. He took four doses of this during the night; and next morning we found that the delirium and sleeplessness continued still unabated, and

that the man was sinking fast into a state of stupor and insensibility. He neither answered questions, nor put out his tongue when desired; he had great subsultus, and was muttering to himself with great volubility and rapidity of utterance. Indeed, his condition was such that I had no hope. Among other symptoms, I should mention that he had contraction of the pupils, a symptom of very unfavourable augury in fever. Having failed with tartar emetic alone, and afterwards with tartar emetic in combination with opium, I had now to seek for some other means of subduing cerebral irritation, and in this emergency had recourse to the use of turpentine,—a remedy which I was inclined to adopt in preference to any other, as there was some fulness of the abdomen, and other symptoms indicating the existence of congestion of the intestinal mucous membrane. I therefore ordered two drachms of the spirit of turpentine to be made up into a draught with a little oil and mucilage, and administered every second hour. Now this is a point in the treatment of this man's case to which I would particularly direct your attention.

I was guided here by a knowledge of the fact, that turpentine exercises a very remarkable influence over many forms of nervous irritation. I can refer for illustration to many affections of the nervous system characterized by excitement, in which turpentine has been employed with the most signal benefit. Thus, we frequently find it a most valuable agent in the treatment of chorea, of epilepsy, and of the convulsive fits of children. We have frequently experienced benefit from its use in the treatment of spasmodic affections of the stomach and bowels; in hysteria, tympanitis, and the subsultus of fever, we often derive from it the most rapid and effectual relief. You recollect a case of typhus which was lately under treatment in our wards, and of which one of the most prominent symptoms was general and continued subsultus; and you have all witnessed how much relief the patient obtained from small doses of oil of turpentine. Hence I was led to conclude that it might be employed with benefit in the latter stages of fever, where vascular excitement is greatly abated, and where the most prominent symptoms are irritation of the nervous centres, with more or less congestion of the gastro-intestinal mucous membrane. In this case, however, I must confess I used it as a last resource, and did not anticipate the very striking results which followed so unexpectedly. After the second or third dose the patient had two or three full motions from the bowels, and shortly afterwards fell into a sound and tranquil sleep, from

which he awoke rational and refreshed. He is now wonderfully improved in every respect, and I have no doubt that his convalescence will go on favourably.

There is one symptom in this man's case which is worthy of your attention, as connected with the history of fever although in other respects it does not seem to possess much importance. I allude to the bullæ which have appeared on the calves of his legs, on the inside of the ankles, and on the soles of the feet. This affection seems to belong to that class of eruptive diseases which are occasionally observed during the course of idiopathic fevers, particularly those which have arisen from the introduction of an animal poison into the system. Thus we sometimes find an eruption of pustules, sometimes of vesicles (as the miliary); occasionally we have bullæ, and not unfrequently erysipelas.

We have had another case of spotted or eruptive typhus, in a man named Henry Harpur, which has exhibited in the strongest manner the value of a combination of tartar emetic and opium in diminishing cerebral irritation, and bringing about a favourable change in cases characterized by symptoms of alarming and imminent danger. Those who have witnessed Harpur's case will confess that few cases could present a more unpromising appearance. He had violent delirium, requiring the restraint of the strait waistcoat, a furious aspect, suffusion of the eyes, constant raving and muttering, and perfect sleeplessness. His pulse was weak, thready, and rapid; his tongue and lips parched, fissured, and black; his breathing quick and irregular; and his cerebral symptoms of such intensity as to leave little or no ground for hope. In addition, he had continued and general subsultus, and constant irregular motions of the extremities. Now this man has been rescued from a state of the most imminent danger, and restored to convalescence, by the use of tartar emetic and opium. Those who saw the case two days since, and who have noticed the remarkably improved state of the patient to-day, will agree with me in saying, that so favourable a result could scarcely be expected. In this case the tartar emetic and opium were combined with musk and camphor. Where great subsultus tendinum is present, in addition to the usual symptoms of cerebral excitement, I am in the habit of combining musk and camphor with tartar emetic, in the following form.

R Mucilaginis Gummi Arabici, ℥ss.; Syrupi Papaveris Albi, ℥j.; Antimonii Tartarizati, gr. ij.; Camphoræ, gr. xv.; Moschi, ℥ij.; Aquæ Fontis, ℥ivss. M.

The camphor should be previously triturated with a few drops of alcohol, and the whole must be rubbed up into the form of an emulsion, of which a table-spoonful is to be taken every second hour, until copious discharges of fluid yellow faecal matter take place,—an occurrence always attended by much relief of the cerebral and nervous symptoms, and which marks the period at which we ought to desist from the further use of tartar emetic. In the case which we are now considering, the medicine was administered in draughts, each of which contained half a grain of tartar emetic, ten grains of musk, five grains of camphor, and about ten drops of laudanum. After taking three such draughts the patient fell into a quiet sleep, which continued for several hours. He awoke quite rational; and since that period his improvement has been steady and progressive. I have not time to enter any further into the particulars of this case at present, and merely allude to it as one of those instances in which we have succeeded in allaying symptoms of cerebral excitement, where the state of the patient afforded very little grounds for any hope of a favourable termination.

At my next lecture I purpose to lay before you, in detail, the history of the results which have attended the employment of tartar emetic and opium in fever, with some observations on its value as a therapeutic agent, and on the cases to which it is most peculiarly adapted.

ABSTRACT

OF

LECTURES DELIVERED BEFORE THE COLLEGE OF SURGEONS,

In April 1837,

BY PROFESSOR STANLEY.

LECTURE III.

ON THE DISEASES OF BONE.

THE next point for consideration is the osseous system in conditions of disease. The first lesson, said Mr. Stanley, which Mr. Abernethy gave me on diseases of bone, was, that bone being organized like the soft parts, is subject to similar diseases. How strange to find a distinguished surgeon and anatomist declaring that the laws by which the diseases of soft parts are governed, are in no wise applicable in the consideration of the affections of the osseous tissue!

As in soft parts we find the diseases modified in correspondence with the peculiarities of their organization, so in bone we find the affections occurring in it assuming a peculiar character, slow in their progress, whether increasing, or under treatment decreasing, and very prone to recurrence in the part once attacked. For instance, a bone once attacked by chronic inflammation, and by it rendered more dense and enlarged, is constantly afterwards likely to be similarly attacked, even at distant periods, before the cure will be completed. But although, in correspondence with its languid circulation and weak sensibility, its diseases are but slow in progress, the structural alterations of bone are frequent, and of very varied character—much more common, for example, than those of muscles, or of serous membranes, whose organization generally is of a much more exalted character.

A very remarkable circumstance observed in connexion with the peculiar vital properties of bone is, that its injuries and diseases generally affect the constitution much less than those of soft parts: for example, in cases where it is necessary to perforate the dense and hardened parietes of a tibia to remove a portion of necrosed bone, which by its presence has produced continual inflammation of the adjacent parts, notwithstanding the pain, severity, and tediousness of the proceeding, it is very rarely found to be followed by that extent of constitutional disturbance which an operation of like severity on the soft parts would certainly have produced.

A constant correspondence may be remarked between inflammation of the medullary membrane and of the periosteum, and of the substance of the bone itself, so that it is difficult, on looking at a bone in which there has been for some time a diseased process carried on, to determine in which tissue the affection first commenced, and the order in which it has supervened in the others. For instance, if an abscess form in the medullary tissue, the irritation is speedily propagated to the corresponding part of the periosteum, in which ulceration may occur, or suppuration take place, between it and the bone, [as illustrated by specimens which were exhibited.] So, too, in cases of venereal nodes; these beginning in inflammation of the periosteum soon produce irritation of the bone itself, causing increased thickness and density of its walls, and sometimes even obliteration of its medullary cavity.

A further illustration of the same correspondence of action between the external and internal tissues of bone, is found in the formation of those osseous cysts which the

older surgeons called *spinæ ventosæ*: these cysts were formerly considered to arise from the mechanical expansion of the bone; but Mr. Hunter more correctly referred them to the principle here announced, remarking, when speaking of the adhesive and ulcerative inflammations in bone, that when the former takes place on the outside at the same time that the latter is going on within, the bone may sometimes be found enormously increased in size. Great difference is observable in regard to the thickness of the walls of these cysts: in some instances it is not greater than that of paper; in others it amounts to a full inch. In the former case it may present a peculiar sensation to the touch, which has been compared to the crackling of parchment, or the breaking of an egg-shell; in the latter it gives the sensation of a solid bony tumor, an osseous exostosis, from which it is with difficulty distinguishable.

Their contents, too, may vary; they may be merely the products of simple inflammation, as serous or purulent fluid; or they may present the characters of the products of specific diseases. Mr. Stanley had found them filled with blood, with scrofulous matter, with encephaloid substance; and from this circumstance he would explain the great difficulty which had existed in regard to the real characters of the *spinæ ventosæ*, the name having been applied in reference to the one character of enlargement common to all the forms of bony cysts, however different their contents, and consequently their real nature, might be.

By a process similar to that by which these osseous cysts are formed, the natural cavity of a bone may become enlarged. For instance, the antrum may be found considerably increased in size, and this either with thinning of its walls producing a tumor which will give the peculiar crackling sensation, or with thickening of them, imitating a solid bony tumor. In illustration, Mr. S. alluded to a case related by M. Gensoul, in his *Memoir on the Diseases of the Maxillary Sinus and Lower Jaw*, in which the antrum being opened during an operation commenced with the intention of removing the upper jaw, was found filled with a glairy fluid, and containing a canine tooth, which was adherent to the lining membrane at the bottom of the cavity, and to a somewhat similar case in a patient at St. Bartholomew's Hospital, where a cyst attached to the lower jaw contained a cuspidatus tooth.

In tracing the analogies of the morbid changes in bone and the softer organs, the increase of its natural structure is first met with, corresponding with the hyper-

trophy of the soft tissues: thus as the heart may be found having its left ventricle increased to twice or three times its natural thickness by the addition of healthy muscular tissue, so may a bone be found similarly increased in the dimensions of its compact or cancellous texture. Partial hypertrophy, occurring either in the walls or medullary tissue of a bone, constitutes one form of the osseous exostosis, and of the venereal node. Hypertrophy of the whole of a bone, producing increase of its thickness, is by no means rare, but increased length from this or any other cause is exceedingly scarce. Mr. S. produced from the Museum of St. Bartholomew's the only example he had ever seen of this change. It had occurred in the tibia, which with its increased length had become curved to adapt itself to the fibula, which had undergone no change, and to which the ligaments united its ends too firmly to admit of its separation. As to the cause of hypertrophy, we have no further knowledge of it in bone than in any other tissue; it may be an increased action of the nutrient vessels, but it has none of the other characters of inflammation. It may be that the fault is rather with the absorbents, which are deficient in action; and this view is supported by the influence of iodine and mercury in removing the venereal nodes and osseous exostosis.

Bone, in common with all other vascular and organized parts, is subject to inflammation; and it may be asked whether the phenomena which characterize that process elsewhere occur here also. Respecting the increased heat no observation can be made; but of the existence of redness, pain, and swelling, there can be no doubt.

As before mentioned, the canals transmitting the vessels in bones are larger than the vessels themselves which are thus capable of enlargement, so that the bone shall contain more blood. It may be presumed, too, that vessels which before would not admit blood-globules are now permeated by them, and give the bone every where a deep red colour. Thus Mr. S. had seen in a bone from which the periosteum had been violently stripped, first a pale rose, and afterwards a bright red colour produced, and in an operation to extract a sequestrum, a flow of blood from the cut surface of the surrounding inflamed bone, as free as from a divided muscle.

With regard to the pain, it might not be considered sufficient to refer to its being usually present as a symptom, for it might arise from the excitement of the nerves in the coverings of the bone, and especially in the periosteum; but suffi-

cient proof is to be drawn from the pain, which is often felt on sawing through an inflamed bone — from the greater pain of the granulations, from a diseased bone, than in those from one in a tranquil state.

The swelling of an inflamed bone is a rare occurrence; but through the liberality of Mr. Arnold, a representation of a case was shewn, illustrating both it and the increased redness. Excision of the heads of the bones had been performed in a case of disease of the elbow-joint in a young subject. Inflammation of the shaft of the humerus followed, and the patient died before it had subsided. The bone was found of a deep red colour, and, as compared with the opposite humerus, evidently much enlarged by the expansion of its textures and the separation of its layers, as clearly seen in a transverse section. Thus in the simple swelling of bone, its expansion, in consequence of the separation of its layers and fibres, the action of its vessels has produced the same effect as prolonged maceration in a weak acid liquor.

In considering the terminations of inflammation in bone, the first to be noticed is its enlargement, with increase of density, even to the production of a hardness equal to that of ivory, resulting from the deposition of osseous matter between its layers. This increase of size and density coincidently, proves that the enlargement is accompanied by a more than proportional increase of earthy matter; it agrees altogether with the thickening and induration of soft parts from chronic inflammation. The change may occur in one bone only or in many, in the same individual, as shown in the effects of syphilis, rheumatism, &c.

Another result of inflammation is ulceration. To this the term caries should not be applied, for there is no reason why ulceration of bone should receive a special name rather than that of any other tissue: this term should be restricted to a peculiar ulcer of bone, for in bone, as in soft parts, there are a healthy and a morbid ulcerating process. The ulcerating surface of a bone is rough and excavated, often presenting a number of minute circular hollows, reminding us of Mr. Hunter's description of an ulcer in soft parts, as being "made up of little cavities or hollows." Around an ulcer in bone there is generally found a heaping up of osseous matter, proportioned to the activity of the process, and analogous to the thickening which occurs around an ulcer in soft parts. Its presence is characteristic of the inflammation by which the ulcer was formed, for a similar thickening and increased density is not observable around bone

which has been progressively absorbed in consequence of the pressure of a tumor, nor around some varieties of specific ulcers, as those occurring in scrofula, syphilis, and in *noli me tangere*, when it spreads to the bones of the face.

A remarkable fact connected with ulceration of bone is, that the lost bone is never reproduced. The utmost reparation that takes place after it, is the cicatrization of the parts around it; and in instances of ulceration penetrating the shaft of the tibia, Mr. S. had seen the vacancy filled by a gristly substance, with osseous points scattered through it, but never sufficiently to render it a mass of bone. In other cases of a similar kind to this, the limb has become again useful, the skin has cicatrized, and the patient has walked upon it; but on examination it has been found that the space has been filled up by gristly matter, and the restored strength of the limb has been the result of ossification of the interosseous ligament and increased thickness of the fibula. But the best illustration of the non-reproduction of bone lost by ulceration, is found in the cure of disease of the bodies of the vertebræ. Here the gap formed by the removal of the bone by ulceration is not filled by new bone, but the surfaces above and below approximate and unite, and an angle more or less acutely projecting behind, according to the number of vertebræ affected, is formed by the ankylosis of those that remain. Hence we see how necessary it is to arrest as early as possible the progress of the disease; for if a single vertebra be lost, a cure without deformity is impossible.

When it is remembered how vascular the interior of a bone is, and that there is a distinct vascular membrane lining the medullary tube and cells, it will not seem surprising that suppuration should be an occasional result of inflammation in it. Its seat is the medullary tube, or the cells of the cancellous texture. It may not be impossible, but Mr. S. never saw an instance of distinct isolated suppuration in the compact substance of bone. By absorption of the osseous substance, the matter formed in the medullary tissue may extend into the contiguous compact substance forming the walls of a bone, but this is very different from the formation of an abscess primarily in the latter. Suppuration occurs in bone in two distinct forms. The matter may be diffused through the cancellous texture, or contained in a single circumscribed cavity. Instances of the former are found in the skull, when inflammation ensues in the bone after a blow, and pus may be observed pervading the whole diploe; or it may supervene after amputation of a limb,

and be found extending through the whole medullary tube and cancellous texture of the remaining part of the bone. Instances of the latter occur often in the cancellous texture of the articular end of a bone, especially in the lower head of the femur, and in the head and distal end of the tibia. In all the cases which Mr. S. had dissected, he had found the cavity lined by a thick and very vascular membrane, which was altogether a new production. [Drawings and specimens illustrating each of these several forms were shown].

The collection of matter throughout the cancellous texture is, of course, likely to be followed by ulceration of the walls, to admit of its escape: hence those sieve like skulls so remarkable in museums, in which the outer table is found drilled by a number of minute apertures, which gave exit to the matter from the diploe.

The circumscribed abscess in bone may be long stationary; a little condensation of the surrounding cancellous texture, and thickening of the adjacent soft tissues, being its only effect; or the walls may be absorbed at a small part, and an aperture formed by which the matter may escape into the surrounding cellular tissue (as in the specimen shown); or, again, it may enlarge considerably, the internal ulceration being coincident with external deposition, and the two progressing together will produce those large osseous cysts before alluded to as the *spinæ ventosæ* of former anatomists, in illustration of the connexion which generally exists between a morbid process in the external and one in the internal corresponding part of a bone. In one specimen presented, such a cavity had formed in the sacrum, and had been filled by purulent fluid; and a drawing was shown of a very remarkable specimen, belonging to the Museum of the Royal College of Surgeons in Edinburgh, in which an enormous cavity existed in the head of the tibia. The sides of this cyst were, in parts, more than an inch in thickness, and there was a large circular aperture at one part which led to its interior, and through which matter was allowed to escape. The patient had been long subject to the disease, and was in the habit of wearing a wooden plug in the aperture, and of withdrawing it whenever the accumulation of fluid rendered the limb painful. The quantity of pus secreted by the walls of this immense cyst varied from eight to sixteen ounces daily.

The bones of the metacarpus and metatarsus are most liable to enlargement in this way, from abscess in their interior. The larger and cylindrical bones are less frequently thus affected.

SOME REMARKS
ON
NERVOUS DISORDERS.
BY DR. HEBERDEN*.

OF all the disorders which affect the human frame, there are perhaps none which exert so extensive an influence, and at the same time are so little understood, as hypochondriasis, hysteria, and the whole class of nervous diseases. This ought to be the less matter of surprise, when it is considered that they are not confined to the body, but invade the province of the mind itself; and while they constitute often distinct disorders, known by a train of symptoms peculiar to themselves, they likewise form a considerable part of many other disorders, and sympathize with all the changes to which the body is liable, from age, from climate, from indulgence, from exhaustion, from joy, or from distress. Their effects, as might be supposed, are hardly less various than their causes. It is difficult to define, or to secure such a proteus. In fact, what we consider as a morbid sensibility is but an excessive or irregular action of one of the most engaging constituents of human nature. What would be the condition of mankind without hope, without fear, without interest in prospect or in possession? Life itself would be a burden, deprived of this source of animation. But, delightful as this faculty is, it requires, like all our energies, to be restrained within certain bounds, and regulated by proper adjustment, that all parts of the frame may act in harmony, and each conspire to the well-being of the whole. It shall be our business in the following paper to point out some of the causes, and some of the effects, of such a degree of nervous sensibility as constitutes a state of disease; and likewise to suggest the use of such medicinal or moral means as may best prevent or relieve it.

The disease itself lying, as it were, on the confines of the mental and bodily provinces, it is right, in each instance, to ascertain first to which of these it justly belongs, in order to direct our cure to the actual cause, rather than to the apparent effects of the malady. Persons more conversant with anatomy

* Read at the last meeting of the College of Physicians.

than with nature will be apt to ascribe more weight than is due to the course and efficiency of the nerves, properly so called, and to extend their influence beyond their legitimate operation. It is true that very striking effects are often discernible from pressure or injury inflicted either upon the nerves of particular parts, or upon the brain or spinal marrow, those great centres from which all the nerves appear to derive their energy, and to which they all communicate their motions. Part of their action is employed in conveying animation and vitality to all the members of the body, that these may be able healthfully to execute their several functions; part afford sensations useful, pleasurable, or painful, by which, as by a sort of natural instinct, we are taught what to choose, and what to avoid. But, important as these operations are, they constitute but a small portion of that train of feelings which is commonly known by the name of nervous.

Perhaps the simplest method of contemplating the subject is to consider the body as made up of two distinct principles—of muscular power, and of nervous sensibility; its healthy state depending upon their due adjustment; while excess on the one side tends to brute violence; on the other to timid counsels, painful irritability, causeless apprehensions, and fretful uneasiness. The irrational part of the creation are not wholly exempt from these effects, which, in those animals with which we are most conversant, shew themselves in dulness and stupidity, or in starting and shyness, or snappishness, all equally removed from the steady courage which is the perfection of their nature, and which we must look for in that *μεσότης*, that middle point of Aristotle, which constitutes the essence of every beauty and every virtue, and round which all are balanced in just proportion.

The proudest view we can take of man is to see him, like some fair vessel, proceeding steadily through the ocean of time; his sails impelled by the feelings and passions of a well-ordered mind; his irregular motions controlled by the ballast of a sound understanding; while judgment sits at the helm, with eyes fixed on the compass of reason and religion. But alas! this is but an ideal picture: the very opposite is too often presented to our view. I say *our* view, because physicians are more

especially called upon to observe human nature in its extravagancies and deformities. When the mask of civility is thrown aside, the body exposed enfeebled by disease, the mind irritated by vexation, sunk in despondence, or, it may be, hurried into madness; jealous, wakeful, restless, changed in temper, changed in character and manner, how humiliating is the scene! Painful to the beholder, more painful to the sufferer, and almost justifying the expression of the amiable Addison, that Babylon in ruins is not so sad a spectacle. Many, nay most of these affections, even when they are purely nervous or mental, do nevertheless draw the body into some participation of their disorder, so that the sleep, the appetite, the digestion, are usually more or less thrown out of their healthy condition. And this is not to be wondered at when we reflect that it is through the operation of the nerves that these parts are excited to the proper discharge of their several offices. Are not the very features distorted by passion, by fear, by despondency? Were men, indeed, convinced that their health and comfort were so materially dependent upon the regulation of their own minds, they would be more careful to strengthen them by study, and moderate them by reason, and confirm them by religion, and reduce them to an equanimity not easily disturbed by the crosses and accidents of life. It is to the want of this right judgment of things that we see people work themselves up to a state of great misery from the merest trifles. Half the evils of life are inflicted by ourselves. In a commercial country men are often at the mercy of the winds and waves; and the failing of some speculation, or disappointment of a cherished hope, has brought some to distraction and death. This is the effect of not seeing things in their true light—of setting a greater value upon riches, honours, or power, than they deserve. For these things, when they have been made undue objects of desire, absorb, as it were, all other considerations, and fill the mind with false hopes and fears, the very fuel of insanity. And it is no wonder that the failure of an object which engrosses all a man's thoughts should upset a mind unguarded by the security of right reason, undisciplined in moral virtue, and unsupported by religious faith. But it is not to this

melancholy view that I particularly meant to draw your attention; for religion, and virtue, and good disposition, and good sense, will not secure a person from the invasion of nervous ills. Qualms and misgivings, and causeless apprehensions and despondency, will sometimes take possession of the mind in spite of our better reason, and throw a cloud over our fairest prospects. Tears will flow and laughter will break out, especially in females, unprovoked by sorrow or joy, and apparently arising from that fluttering state of animal spirits which is known by the name of nervous. If these effects be more common in females, in men we see a deeper dejection, filling them with unfounded alarms, either disqualifying them altogether for business, or obliging them to pursue it in heaviness and heartlessness.

I have dwelt the longer on this subject because it forms a very large part of a physician's practice. Nervous irritability, irregular sensations, uncontrolled impressions, unfounded uneasiness, and restlessness—often accessory to bodily infirmities, often wholly independent of them, and sometimes mimicking real diseases—are things of daily occurrence, and demand a diligent attention to investigate their true source, to sift realities from appearances, and to administer their proper remedies; remedies not confined to drugs and potions, but calculated to afford consolation and refreshment by giving a new direction to the mind, by help and encouragement raising the languid spirits and calming those which are troubled. The good sense and prudence of a physician is much seen in these matters. Where roughness might disgust, and flattery perpetuate disease, firmness combined with mildness, and aided by a judicious application of medicines and a moderate interchange of exercise and rest, of occupation and amusement, of company and retirement, will often restore to its healthy condition a mind tormented with vapours.

Disease itself will sometimes prove a cure to the apprehension of it. A strong instance of this occurred in the case of an elderly gentleman, of good acquirements, who was seldom many days together without sending to me, under the impression of some great malady either actually begun or imminently threatened. He would hold up his hands in amazement, and express no

small surprise if I assured him his pulse was good, or other things in a natural state. At length, after a longer interval than usual, I had a visit from his nephew, inquiring about his uncle and requesting me to call upon him. Then, for the first time, I found him seriously ill, and for the first time heard him say that he had not thought it necessary to trouble me, as he considered it a thing of no consequence: but it was, indeed, the extinction of life itself. He continued cheerful for the few days that he survived, and then sank quietly into the sleep of death.

Some curious accounts might be given of the mimicry of diseases. While I was physician to St. George's Hospital a woman was brought in with a peculiar affection of the throat, which occasioned a sound unlike any thing I had ever heard, or could have attempted to imitate. It so happened that she was placed in a bed near to a young person, a patient of mine, who, in a few days, began to make a noise just like that of the new comer. Upon removing one of them into a different ward this presently ceased. On another occasion I was consulted by a lady who kept a boarding-house for about a dozen girls. One of them, of an hysterical constitution, had conceived I know not what alarms from the idea of a gentleman of unsound mind being confined in the adjoining house. One day, upon hearing, or thinking that she heard, some noise, she fell into an hysteric fit, which was afterwards several times repeated upon very slight occasions; and not only so, but others of the girls now also took on the same affection, till at length any noise, however trifling, as the opening of a sash or moving a chair over-head, threw half the school into convulsions. The remedy was obvious, and was soon effectual. I got the gentleman removed to some other house, and the school presently recovered its accustomed order. Such instances prove how easily nervous affections may be excited in a delicate frame, where we cannot suspect any bodily disease to give rise to them. They are most common in females; particularly in those who labour under irregularities of any kind connected with their sex: and this suggests an important consideration, that if a delicate habit and an irregular action of the female body be among the chief causes of these affections, what-

ever strengthens the habit generally, or restores the healthy disposition of the disordered functions, may be expected to furnish the most appropriate remedies. We have seen that the mind is by no means unconcerned in these trains of symptoms: to the mind, therefore, must be applied such attention as may be most likely to call it off from its morbid feelings. When these are excessive, they may usefully be soothed by opiates, especially in conjunction with ammonia, or some of the fetid gums, which at the same time are calculated to prevent too great a languor. But the more desirable method, when it can be done, is by giving a new turn to the animal spirits, powerful enough to overcome their habitual fluttering and fretfulness. "I can bear some testimony," says the late amiable Bishop Jebb, "and hope to bear more, that resistance and activity, next to the knowledge and feeling of true religion, are the best means of overcoming low spirits*." Indolence at once feeds, and is fed by this complaint. A gentleman (I think he had been brought up in the navy) retired from his profession upon a moderate income, and being now without occupation, became eaten up with melancholy. In this state he continued some years, in spite of all remedies, which, if they afforded a temporary relief, failed to produce any lasting cure. At length he took up an idea of conveying fish from the coast of Devonshire to London. Neither roads, nor carriers, still less rail-roads, were so calculated for expedition as they have since been. This gentleman, with unusual energy, entered upon his schemes of supply and means of conveyance, which presently engrossed all his thoughts, and drove before them the demon of hypochondriasm which had so long possessed him, and baffled all the ordinary means of relief. If in this case a want of employment seemed to give rise to restlessness, uneasiness, and loss of all energy of mind, in others we find excess of occupation produce nearly the same effects. I remember attending a clever and active gentleman, who had been a Commissary in the Duke of York's army in the Netherlands, at a time when they were obliged to make a rapid retreat; and it fell upon him to

provide for a large army, often at distant stages, and at very short notice. He was deeply impressed with the importance of his charge, which was attended with great mental and bodily exertion, with constant anxiety, little rest, and uncertain meals, and this for many days in succession; at the end of which time he came home, thoroughly exhausted in strength and spirits. It was long before he could resume any active employment: his digestion was deranged, his sleep broken, and I believe he never entirely recovered his former powers of mind. The string may be too loosely or too tightly stretched to produce its proper tone and give its effect to the general harmony of the body. The usual attendants upon this state of things, as regards the body, are indigestion, uneasiness and pain in the stomach, an increased secretion of urine, diarrhoea, or sometimes costiveness, nausea, giddiness, inflation of the bowels, loss of appetite, cramps, palpitation, sighs and tears, debility, and wakefulness,—and all this with a pulse often little altered from its natural rate. The mind at the same time is apt to be unsettled, querulous, and afraid where no fear is. This disorder is not unfrequently aggravated by an injudicious use of wine and spirituous liquors,—which, if they appear to lull the senses for a little space, and to afford a temporary elevation of spirits, presently reduce the patient to a worse condition than he was in before, his uneasiness being increased, his power of resisting it diminished. Where immediate relief of intolerable distress is required, opium affords a better and a safer remedy. Generally speaking, a diet that animates and stimulates the frame is rather to be recommended than poor and deficient nourishment; and what is true of food, is true also in regard to physic,—for nervous patients ill bear bleeding and lowering medicines. I wish I could persuade practitioners that they ill bear calomel also, the disgrace of modern medicine. Instead of thus blindly giving calomel for every disorder, they would do well to consider that here, as in most illnesses, it is the business of the physician to bring all parts of the frame as nearly as possible to a healthy state; and when the natural energies of the body are restored, to let nature complete the cure, undisturbed by eternal calomel. What a little thing will some-

* Jebb's Correspondence.

times exert an influence upon nervous affections even of long continuance, was remarkably shown in a young lady, a patient of mine, who had suffered a suppression of voice for several months; but having removed for change of air to the sea-side, she found that while sailing at a little distance from land, her voice unexpectedly returned, so that she was able to sing in the boat,—an accomplishment in which she used to excel; but as she approached the shore her voice again left her, and this variation happened as long as she remained there that season. Afterwards her health grew worse, and sailing failed to produce the same effect. Something of the same kind is very commonly seen in asthma; patients labouring under which complaint will often be able to breathe in one place with tolerable ease, while they are oppressed with painful difficulty in another little removed from it either by distance or any sensible qualities.

The natural and healthy condition of the animal spirits are never more amiably displayed than in the amusements and playfulness of children, who can find delight in every thing,—in a stock or a straw,—and whose cheerfulness reflects a gaiety on all around them, impressing every well-ordered mind with feelings of gratitude and adoration to the author of so much joy and gladness.

It might seem to be an easy transition from hypochondriasis to insanity; but though extreme cases may approach near to one another, there is usually a marked line of distinction between them; and it consists in this, that in the former the feeling alone is concerned, while the understanding and reason remain unimpaired,—but in madness the understanding itself is perverted. In a sound state of mind the imagination and the reason support and minister to each other, the one affording a perpetual succession of ideas, enlivening the fancy with new and shadowy pictures, while the judgment is employed in correcting by the standard of truth. When, therefore, either the imagination is so vivid as to overcome the power of the judgment, or the judgment so weak as to be unable to correct the errors of the imagination, in either case that condition is produced which is properly called madness. In this place I may be excused for remarking, that the ancient terms for different states of unsound mind have

not always been rightly apprehended; for *μανια*, which is commonly supposed to mean *fury*, does really include the whole genius insanity; while *μελαγχολια*, which the usage of modern language applies to dejection and despondency, was formerly employed to denote a high degree of excitement—"Quem nos furem, *μελαγχολινα*, Græci vocant *."

That madness itself may be produced by nervous excitement, seems to be proved by the cases of puerperal insanity; for this will occur in persons no wise liable from constitution or inheritance to such an affliction. And though it wears for a time all the appearances of real madness, yet it so far partakes of the more lenient character of nervous diseases, that when the sensibility of the frame has had time to recover its proper tone—that is, usually after a few months have elapsed, all future derangement of intellect entirely ceases. In other cases, where anxiety has been the immediate cause of madness, a recurrence of the disease has too frequently raised a suspicion that its origin may really have been from a deeper source; and that it has only been brought into action by some impression upon the mind more vivid than usual. And it must be remembered that when the imagination is once excited to extravagance, and blazes into madness, it is not a withdrawal of the cause, whatever it be, that will arrest the effect; the removal of the kindling fuel will not extinguish the burning heap. Whether the understanding be disordered or not, it is always right to struggle against such impressions, which, the more they are indulged, the firmer they establish themselves, and the harder it is to shake them off. And this is true, whether the cause of these diseased feelings be real, or only imaginary; for it is well known that no disease is more obstinate than a false apprehension of disease. The most perfect state of bodily health will not render a person secure against the invasion of these visionary troubles, which sometimes, like a blasting wind, destroy the fairest prospect of human enjoyment. But in estimating a patient's expressions, it is necessary to be circumspect, lest we attribute to hypochondriasis what is the effect of some real, but deep seated, and less obvious bodily disease. In this

* Cic. Tusc. 3, 5.

the pulse will usually be our safest guide. If that be permanently quicker than is natural, especially if it be accompanied by any of the ordinary signs of hectic fever, there will be reason to suspect some latent seed of growing mischief, which will demand a patient investigation on the part of the physician, and a patient perseverance in medical discipline on the part of the sick person. Yet here we may be divided, if we do not pay proper attention to all the attending circumstances; for a quick pulse, and languor, and loss of strength, and profuse perspiration, will sometimes, especially in females, be the consequence of long confinement, independent of any organic disease. A striking instance of this occurred to me many years ago in the case of a lady, who had some weeks before been brought to bed under the care of Sir R. Croft. She was lying in rather a small room, occupied by a large bed handsomely furnished, besides which was her nurse and her child, and all the apparatus for a lying-in chamber. Here she had remained an unusually long time under some apprehension of fever, with a hurried pulse and unrefreshing sleep, and frequent perspiration and increasing debility. I suggested to Sir R. C. that she should at once be removed into an adjoining room, while her bed and bed-chamber were thoroughly aired. He accordingly took her up himself and carried her to a sofa in the drawing room, and I left her, saying that I would call again in about two hours' time. As soon as she saw me return, she exclaimed that she was quite another creature; and I found, indeed, that the change had surpassed my expectations. The pulse was quieter, and the whole frame was refreshed; her spirits were greatly recruited, and animation seemed to pervade anew the parts which had been so lately lost to all exertion. In such a case I am very far from supposing that medicines are useless. They are useless, as food is useless, when there is no power in the stomach to convert them to their proper purpose; but when the nerves have recovered their energy, imparted their influence to the parts within, these medicines prudently administered will hasten and confirm the restoration of those natural actions which constitute a state of health. It has sometimes been made a question whether medicines have any effect in

cases of confirmed madness, the answer to which must vary with the occasion; for it must always be desirable to maintain the body in a cool, tranquil, and healthy condition, and to prevent as much as possible every source of irritation from within or from without, particularly such as may arise from fulness of the vessels, seeing that apoplexy is a frequent termination of such disorders. But beyond a general principle there can be no universal rule applicable to all cases of so very variable a disorder; yet if little can be done to cure it, perhaps more may be done than is commonly supposed, to prevent it. With this view it will be right to keep in mind the balance of the imagination and judgment before alluded to; and the former must not, like an unruly steed, be suffered to have its head, nor the latter to lose its command. The imagination must be trained to proceed gently, keeping out of the way of all such circumstances as might be liable to excite it; while the judgment is gradually strengthened by wholesome reading and quiet conversation, and study of any kind that will fix the attention and induce a tranquil exercise of the understanding, and fill it with realities and sound principles, and steady it by just conclusions. All the paths of learning are open to their purpose, and above all, the doctrines of religion. But it must be religion in its purity and simplicity, as it was instituted by its Author, and preached by his apostles, not as it has been perverted by the unskilful hands of visionaries and enthusiasts, who are apt to supply food rather than physic to a distracted mind.

Thou, fair Religion! wast design'd,
Duteous daughter of the skies,
To warm and cheer the human mind,
To make men happy, good, and wise;

To point where sits, in love array'd,
Attentive to each suppliant call,
The God of universal aid,
The God, the Father of us all!

First shewn by thee, thus glow'd the gracious
scene,
'Till superstition, fiend of woe!
Bade doubts to rise, and tears to flow,
And spread deep shades our view and heaven be-
tween.

Drawn by her pencil the Creator stands
(His beams of mercy thrown aside),
With thunder arming his uplifted hands,
And hurling vengeance wide.

Hope, at the frown aghast, yet ling'ring, flies,
And dash'd on Terror's rocks, Faith's best de-
pendence lies.

ON THE
DISSOLUTION OF GRAVEL AND
STONE IN THE BLADDER.

BY A. CHEVALLIER,

Chemist; Member of the Royal Academy of Medicine, of the Council of Salubrity, &c. &c.

Translated from the French,

BY EDWIN LEE, M.R.C.S. &c.

Author of "An Account of the Watering Places of the Continent;" "Observations on Continental Medical Institutions and Practice," &c.

To the Editor of the Medical Gazette.

SIR,

THE interesting nature of the experiments and investigations in M. Chevallier's pamphlet have induced me to present a translation of it to the British medical public; and should the important results which are therein stated be confirmed by further experience, and by more minutely studying the action of lithontriptics, than has been hitherto done, we may reasonably indulge the hope, that the number of operations for the stone will in future be materially diminished, or, at all events, that much of the suffering attendant upon calculous affections will be alleviated.

The translation is not a literal one, as some parts, not immediately of practical application, have been omitted.

I am, sir,

Your obedient servant,

EDWIN LEE.

June 1837.

I. On the subject of the work.

The discussion which was occasioned in the Académie on the 5th May, 1835, by the report made by M. Velpeau on a Memoir of M. Leroy d'Etiolle, entitled "On Lithotrity in Young Children," and which was prolonged during several meetings, has attracted the attention, not only of practitioners, but also of other people; who see continually in the newspapers both the advertisements of new instruments of lithotrity, and the details of the results obtained by the application of lithotrity and lithotomy, for the extraction of vesical calculi.

At that period, the comparative value of lithotomy and lithotrity was attempted to be established; but although the discussions were as comprehensive as they could be at the time, they clearly demonstrated that much remained to be studied, in order to discriminate with

correctness the cases in which lithotomy was to be performed, from those in which lithotrity should be employed. If those who defend lithotomy are to be believed, lithotrity is only to be had recourse to in some cases, and the failures resulting from it are more numerous than those which have been ascertained, by statistical investigations, to depend upon the operations of lithotomy. If, on the other hand, we rely upon the statements of those who defend lithotrity, more persons fall a sacrifice to lithotomy, which also exposes the patient to serious infirmities, which sometimes arise after the operation even in those cases where it has succeeded.

However this may be, the discussions which took place before the Académie have shown, that whatever be the mode of operating employed by skilful practitioners for the extraction of stones from the bladder, reverses do unfortunately occur, and that a not inconsiderable number of patients die in consequence of operations for the extraction of calculi.

This circumstance has induced me to make numerous reflections, and to ask myself if the researches made on the substances which dissolve calculi contained in the bladder (lithontriptics) had been carried sufficiently far, and if chemists ought not to make new experiments in order to furnish means of combating a disease with which so many persons are afflicted.

It is, then, in order to determine this question, that I have studied the works up to the present time on those substances capable of dissolving vesical calculi, and that I made the journey to Vichy, to examine the action of alkaline mineral waters on these calculi, which has been very recently announced by Dr. Petit, but which was previously known, as these waters had been recommended by Dr. Magendie in his work on the Gravel.

II. On Lithontriptics.

The term Lithontriptic has been indiscriminately applied to substances from the animal, vegetable, and mineral kingdoms, which have been, rightly or erroneously, considered to possess the properties, not of breaking the stone, as the word would appear to indicate, but of decomposing or dissolving vesical calculi, which subsequently pass off in the urine.

The substances which have been con-

sidered as lithontriptics are numerous, and may be divided into several classes. Among these substances may be enumerated from the vegetable kingdom, the sassifrax* (*sassifraga granulata*), the juice of the *allium cepa*, the *arbutus uva ursi*, the *pareira brava*, the *raphanus rusticanus*, the *lignum nephriticum*; from the animal kingdom, the *oniscus asellus*, the woodlouse, which contains, according to Peres, nitrate of lime; from the mineral kingdom, pure water, different mineral waters, lime, Stephens's remedy, the citric, oxalic, sulphuric, and carbonic acids, magnesia, potass, soda, and their carbonates.

If we inquire into the mode of action on urinary calculi of the different vegetable substances which have been named, we are led to believe that these remedies are in themselves inert, and that, if they have been efficacious in some cases, the circumstance must be attributed to the water which serves as the vehicle for their administration: the same may be said of plants which contain nitre, and woodlice. It is probable also that in some cases these aqueous preparations act in the same manner as common water, which, given in large quantities, can, at least in our opinion, dilute the urine, and act upon some stones; thus it has been demonstrated by the results of the experiments of Littre (*Mémoires de l'Académie des Sciences*, 1820) that water is a solvent of calculi, but, in order that its employment be attended with success, great perseverance is required on the part of the individuals on whom the experiment is made, which is rarely the case with patients.†

We will not extend any further our inquiries on the action of vegetable and animal substances employed as lithontriptics, but in the following paragraphs we will examine what are the facts which lead to the belief in the dissolvent power of water, and of certain substances employed against urinary calculi.

* The stone-break; according to Pliny so named from its lithontriptic power.

† Since we have been occupied by the publication of this memoir, we have seen some practitioners, who pretend that they have employed decoctions of vegetable substances with great advantage. Although this hardly appears to us possible, yet we intend studying with one of these practitioners the action of these decoctions on patients with calculous complaints.

The peculiar action of the *pareira brava*, and some other substances, in diminishing the quantity of ropy mucus, secreted in diseased states of the bladder, would appear to corroborate the above statement.—*Note of Translator.*

III. On the action of Water on Calculi.

Water, this powerful dissolvent, which acts on all substances, and which might justly be termed the universal dissolvent, has been used experimentally in order to ascertain whether it affected vesical calculi. In fact, in the beginning of 1720, De Jussieu, Member of the Académie Royale des Sciences, informed that learned body that a professor of anatomy and botany at Besançon, M. Billeret, having discovered that the water of the rivulet of Bougeaille possessed the property of dissolving common stones, was induced to examine whether this water would have any action on urinary calculi, and that the results were affirmative.

The experiments made by M. Billeret are the following:—A fragment of a vesical calculus, weighing fifty grains, was put in the month of July in a bottle containing six ounces of water of Bougeaille; a piece of the same calculus, of the same weight, was placed in six ounces of water of the rivulet of Craye (which flows at a short distance from that of Bougeaille). At the expiration of four days, the water of Bougeaille was so turbid as to hide the stone, and after twenty days none of the fragment remained, but a muddy sediment, caused by the decomposition of the stone; after eight days (twenty-eight days altogether), this mud was dissolved, the water remaining cloudy. A sediment, weighing two grains, was subsequently deposited, the product, causing the cloudy appearance of the water, being doubtless owing to the animal matter existing in calculi, which forms as it were a cement, binding the parts together. The fragment of stone placed in the water of Craye was not changed; in fact, after having been dried, it had neither increased nor diminished in weight.

The experiments made by M. Billeret were repeated by the Prior du Mouthier, doctor and professor of theology in the priory, near which the rivulet of Bougeaille flowed. This savant found that the fragments of calculi which he put in the water of Bougeaille were decomposed, but it required more time than in the preceding experiments, which was probably owing to the nature of the calculi employed being different.

The communication made by De Jussieu of the results obtained by M. Bille-

ret, attracted the attention of the Académie; and it was considered important to examine whether the dissolvent power might not exist in other waters, and whether there might not be found some more powerful in this respect. Littre was therefore charged by this learned body to examine the water used for drinking and for other purposes in Paris and its environs.

From the examination made, the following results were deduced.

1. That the waters of Arcueil, of the Seine, of Belleville, and of cisterns, dissolve stones, taken from the human bladder, but that they are not dissolved till the expiration of several months.

2. That more or less time is required for these dissolutions, according to the greater or less degree of density and compactness of the stones.

3. That the mud from stones dissolved in these waters, or the greatest part of it, remained stationary from the 10th of May to 10th of following December.

4. That the water of Belleville, although it does not dissolve soap, and cannot be used to cook peas, dissolves stones from the bladder in the same space of time as the waters of Arcueil, of the Seine, and of cisterns*.

5. That the water of a well which does not dissolve soap, and which cannot be employed to boil peas, dissolves vesical calculi, but much more slowly than the water of Belleville.

6. That the stones which are entirely covered with these outward coatings are dissolved later, and with more difficulty, than those in which this coating is deficient in some parts.

7. Lastly, that all the stones employed could be dissolved sooner or later in the waters of the Seine, of Arcueil, Belleville, or of cisterns.

Gruithuisen, who has also observed the effects of water upon calculi, says, that he let cold well-water fall drop by drop on a fragment of stone composed of urate of ammonia during twenty-four hours, and he found that the fragment, which weighed 24 grains before the experiment, only weighed 19 and a half after it; it had, consequently, lost 4 grains and a half, and had also become more friable. Gruithuisen observes,

* Dr. Dobson is led to believe, from the results of his inquiries, that hard waters prevent, rather than cause the formation of stone. This opinion, says Marcet, appears to be confirmed by the good effects obtained in calculous affections from the hard waters of Buxton, Matlock, Bath, and Bristol.

that if cold water acts with this power, tepid water ought to have more effect; and after having alluded to the use of a catheter destined to introduce water in the bladder, he speaks of the possibility of giving the water a more dissolvent property, and quotes the opinion of Fourcroy and Vauquelin on the subject.

This author also supports his opinions on the possibility of dissolving calculi, by the circumstance of the infrequency of calculous diseases in the east, which he attributes to the large quantity of aqueous drinks taken by oriental nations; and he states that an officer in whose bladder Pott had found a stone by sounding, returned cured from Barbadoes, where he had gone before subjecting himself to the operation.

In one of his experiments, Littre saw a stone fall into several pieces after having remained in water; this fact, which is curious, has also been observed by myself: an entire calculus which I had placed in some Vichy water, first cracked, then fell into several portions. This circumstance had already been observed; Deschamps says that calculi become partially divided; Heister and Camper have spoken of the spontaneous fracture of calculi in the bladder. At the meeting of the 18th October, 1835, M. Segalas informed the Académie de Médecine of a case of spontaneous division of the stone in the bladder, and since that period we have known a patient who had taken bi-carbonate of soda, and who had never been lithotritised, to pass fragments, which, joined together, formed an entire calculus.

The experiments of Dr. Billeret, the facts announced by Littre, resulting from experiments made by order of the first learned body in Europe, and the observations of Gruithuisen, are in our estimation of great value; for when we consider that MM. Billeret, Littre, and Gruithuisen, used only cold water, we are led to infer that the results would have been, as Gruithuisen thought, much more favourable for the dissolution of the stones submitted to the experiments, if those practitioners had employed water of the temperature at which it is usually found in the bladder.

Some trials have been made by M. Jules Cloquet, by injecting water into the bladder. This celebrated practitioner caused to be constructed a silver catheter, the interior of which is divided

so as to form two tubes: to the superior extremity of the catheter, which is bifurcated, an elastic tube, furnished with a stop-cock is adapted, and serves to convey water from a reservoir placed several feet above the patient's bed; a second elastic tube is attached to the inferior branch of the catheter, in order to convey the fluid which has thus passed through the bladder, to a vessel under the bed*.

With this apparatus M. Cloquet made his experiments, but fearing to employ active substances, even when much diluted, he made use of distilled water, to a current of which he subjected calculi of different kinds, taking the precaution of dropping at certain distances small quantities of sealing wax, which, by covering parts of the calculi, prevented them from being dissolved, and indicated the state of the calculi before the experiment.

One of the stones composed of uric acid, and subjected by M. Cloquet to the action of the water by this method, had diminished a line and a half in diameter in the space of a month, the experiment having been continued during five hours each day. Such a fact very clearly demonstrates the dissolvent action of water upon calculi, and we may reasonably expect much more when they are placed in proper condition; that is to say, when a fluid is employed having a temperature analogous to that of the bladder, and when this fluid, without acting on the bladder, is capable of decomposing or of dissolving calculi.

IV. *On the action of Mineral Waters upon Calculi.*

It has been shown in the preceding paragraph that water, even in a state of purity, exercises a dissolvent action on stones of the bladder. We are hence led to think from the facts observed, that as modern chemists have averred, mineral waters—waters impregnated with saline and gaseous substances—must act more energetically, especially when they contain salts which have an evident chemical action upon these stones.

The mineral waters which have been most reputed as being serviceable to patients with stone and gravel, are the waters of Contrexeville, Plombières, Selters, and Vichy; it is probable that

other waters, especially those containing alkaline carbonates, might be used with great benefit. The experiments made at Vichy by Dr. Petit exhibit the advantages that may be derived from these waters*.

Experiments were made so long ago as the beginning of the last century on the dissolvent action of mineral waters on stones of the bladder. In the *Memoirs of the Académie des Sciences*, for 1764, are works on the nature of stones formed in the human body, in which it is said that Varandeus, quoted by Dessault, had discovered that the waters of Balaruc dissolved calculi; that M. Vignes, director of the waters at Barèges, had remarked that these waters reduced to a muddy slime vesical stones subjected to their action; that the waters of Cauterets produced similar effects.

Tenon, desirous of verifying these assertions, availed himself of the journey which he made to Barèges, to subject different stones of the bladder to the action of these waters, and to ascertain whether they acted on all stones alike.

The experiments made by this savant demonstrated to him, 1st. That stones of the bladder of a white colour, subjected to the action of water from the royal spring, were changed into a limpid slime, resembling the white of eggs. 2d. That yellow stones were more quickly dissolved, leaving a viscous matter. 3d. That mulberry stones (those composed of oxalate of lime) underwent no alteration from being placed in the water.

The dissolution of stones by the waters of Barèges, with the exception of the mucilage, (the slimy and viscous matter) is easily explained, for it is known, since M. Longchamp published an analysis of this spring, that the water is alkaline, that it contains caustic soda, and traces of potass in a free state; substances which were stated by Fourcroy to be capable of dissolving calculi of uric acid, and which, in our opinion, cause the decomposition of phosphatic calculi†.

Tenon was not satisfied with examining the action of the Barèges waters; he likewise tried those of Cauterets, which

* I have described a similar apparatus used by M. Civiale in chronic inflammation of the bladder, in my *Observations on Continental Medical Institutions*.—*Note of Translator*.

* Some of the German waters, as Billin and Fachingen, which are even richer in alkaline carbonate and carbonic acid gas than those of Vichy, enjoy a high reputation in calculous affections. See my work on the Mineral Springs of the Continent.—*Note of Translator*.

† The waters of Barèges contain but a very small proportion of alkali in comparison with those above named.—*Note of Translator*.

also, according to M. Longchamp, contain soda and traces of caustic potass: he found that the water from the spring Petit Bain, had in thirty days deprived a vesical calculus with *yellow laminae*, which weighed 10 drachms 59 grains, of 8 drachms 29 grains of its weight, leaving undissolved a portion which did not weigh more than 2 drachms 30 grains.

These results demonstrate, in a positive manner, the dissolvent action of mineral waters on calculi of the bladder; and we ought to ask ourselves, why similar facts have not induced practitioners to make trial of them on patients, in order to endeavour to relieve them from the dangers which an operation always presents? There is still greater reason to be surprised, when we find that Desault published in 1736 a small work, entitled "On the Stone in the Kidneys and Bladder; with a simple and easy method of dissolving it without injuring the urinary organs;" a work in which he recommends the use of Barèges water taken internally, and injected into the bladder, as a curative means for the stone.

The action of the Contrexeville waters, to which several practitioners ascribe the property of causing gravel to be voided, is more difficult of explanation, for the analysis of these waters shews that they only contain traces of sub-carbonate; however, we were enabled, in a journey which we made to Contrexeville, to convince ourselves of the efficacy of these waters in gravel. It must, however, be here stated, that the doses of water which drinkers take at Contrexeville are considerable; in fact, we have seen persons drink as many as twenty glasses of water in a morning; the quantity of water drank by some patients, during the season at Contrexeville, amounts to 400 pints, which would explain, we conceive, the action of this water in gravel*: however this may be, the influence of the water is evident, and Bayard, in his "Memoir on the Waters of Contrexeville," printed in 1760, has related several examples of persons under treatment by these waters,

in whom stones passed from the bladder with their urine.

Thouvenal also considered the Contrexeville water as a preventive of the formation of calculi, and capable of dissolving them when formed.

Seltzer water has also been regarded as capable of acting on vesical calculi: thus Laizon, a physician of Toulouse, has given an account of two cases of cure obtained by the use of Seltzer water; in one of these cases the existence of a calculus in the bladder was proved by sounding, and the cure was complete, as the patient had had no recurrence of the symptoms at the expiration of eight years.

Vichy water is mentioned in the work of Dr. Patissier (*sur les Eaux Minerales de la France*) as beneficial in calculous affections. More recently one of our honourable colleagues, M. D'Arcet, Member of the Council of Salubrity, (in a paper published in the *Annales de Chimie*, 1826,) after a journey which he made to Vichy, pointed out the action of this water, and called the attention of scientific persons to the property which it had when drank or used as a bath, of rendering the urine alkaline, and maintaining it in this state for a greater or less period. After referring to the experiments of Wollaston, Fourcroy, Vauquelin, Mascagni, Luisius, Brande, Home, Hatchett, Marcet, Prout, and Magendie, he concludes that the chemists who have studied with the greatest care the action of alkalies on urine and urinary calculi, have not attached sufficient importance to the different results obtained in these investigations, according to the employment of the pure and caustic alkalies, or to their use in the state of bi-carbonate.

In this paper, M. D'Arcet, whose philanthropy is well known, points out the possibility of very successful results being obtained by examining afresh and with more exactness and boldness than has been hitherto done, the treatment applicable to persons affected with gravel and stone, and he insists strongly upon the necessity of further investigations and trials on a subject so full of interest*.

* M. Schultens, in a Dissertation published in London in 1832, says, that from 1767 to 1769, the proportion of stone cases diminished at Amsterdam in a remarkable manner; this diminution is attributed to the introduction and general use of tea. The water of Plombières, which has also been considered efficacious in calculous complaints, does not contain more than half a grain of alkali to the pint.—*Note of Translator.*

* In proof of the harmlessness of the employment of alkaline salts, M. D'Arcet quotes several facts, especially those relating to the workmen in workshops where the salt of soda is separated from the barilla in its raw state. "These workmen," says he, "pass ten hours a-day in this workshop, and taking no precaution, must inhale

In a work on the waters of Vichy, Dr. Petit, assistant inspector of the springs, has reported the observations made on calculi: he has indicated their nature and the circumstances applicable to the dissolution of calculi in general, as well as the treatment to which persons with the gravel and stone should be subjected. M. Petit has likewise published the facts which have occurred in his practice, which demonstrate that persons affected with gravel, and even with stone, have been cured by the use of these waters.

Several other mineral waters have been recommended in calculous affections, especially those of Aix, in Provence, which, however, according to the analysis of M. Laurens, only contain a trivial portion of animal matter, and fractions of the carbonates of magnesia and sulphate of soda*.

If the mineral waters which we have named act upon calculi in any other manner than common water, they justify what has been said respecting them. If the virtues of mineral waters are to be considered in the direct ratio of the amount of mineralizing substances which they contain, the waters of Aix and many others must be regarded as inefficacious; positive facts, however, of well-attested cures appear to demonstrate that much remains to be done by chemistry with respect to mineral waters, for many cures observed in different localities can only be explained by admitting that the waters which have produced these effects contain certain substances which have hitherto escaped the researches of chemists. This opinion may be allowed with the greater reason, inasmuch as, within the last few years, iodine, bromine, and other substances, which possess certain characters by which they may be detected, have been discovered in mineral waters.

[To be continued.]

and swallow a large quantity of soda. Many workmen who had worked there during seven years, having been questioned on the subject, declared that they had not experienced any inconvenience, but that they became sooner hungry than in the other workshops of the manufactory; that their bowels were rather constipated than relaxed, but that they felt no indisposition from this state: their urine was almost always alkaline."

* M. Springsfeld, a physician at Weissenfeld, published two works, in the first of which he states as a fact that the waters of Carlsbad in Bohemia have the property of dissolving calculi; in the second, he attributes to them a dissolvent virtue superior to that of lime-water.

ENDERMIC APPLICATION OF MORPHIA.

To the Editor of the Medical Gazette.

SIR,

I SHALL feel obliged by your affording space in your excellent journal for the following cases treated on the endermic method, which I think valuable as demonstrating that the same class of remedies which afford but a very partial and temporary relief when exhibited internally, will sometimes effect a complete and permanent cure when applied endermically.

The endermic plan of treatment gives the physician a more speedy and immediate control over certain neuralgic affections, than can be obtained by internal remedies, and I think it is not improbable that this method of treatment may be found available in some diseases of the same class which are little under the influence of ordinary means, such as tetanus and hydrophobia.

I remain, sir,

Your obedient servant,
EDWARD GREENHOW, M.D.

North Shields, June 6, 1837.

The first case I have to record is that of a lady, 77 years of age, who had been suffering for upwards of four months from a constant dull pain extending from the shoulder to the elbow, which the slightest attempt to raise the arm converted into an acute darting pain which did not subside for some minutes; she passed miserable nights, in consequence of the recumbent position bringing on the paroxysm; her appetite had failed, and her general health became seriously impaired. Before I saw her, blisters had been applied, opiates had been administered, and other means employed which it is not necessary to mention, but without experiencing any relief. On the 20th of April I directed a blister to be applied over the shoulder-joint, and on the evening of the following day, the skin having been removed from the blistered surface, half a grain of the muriate of morphia was applied and covered with the dressing; the patient passed a better night than she had done for many months, the darting pain being wholly suspended. However, in the course of the following day the pain returned, and I directed the morphia

to be applied both night and morning; finding the pain, notwithstanding, still return at intervals, the quantity of morphia was increased to a grain, and subsequently to a grain and a half, which was applied for the last time on the 30th, just ten days from its commencement, at which time the acute darting pain had quite ceased, and although some dull sense of uneasiness remained, it was quite bearable, and the arm could be moved in any direction without pain; the patient now passes comfortable nights, and has regained her appetite and usual state of health.

The second case was that of a gentleman, 65 years of age, who had been suffering for some weeks from an acute pain about the pyloric orifice of the stomach; the pain generally came on an hour or two after eating, but not invariably, for sometimes it awoke him early in the morning, and often in an evening he vomited the food which he had taken during the day; this gentleman had been subject to these attacks for some years, and always suffered for several weeks before they yielded to any mode of treatment. On the 4th of May, I directed a blister to be applied to the pit of the stomach, and the day following to commence with the application of half a grain of the muriate of morphia night and morning, and to take a scruple of the carb. of soda, three times a day. The first application afforded relief, and on the eighth it was discontinued, since which period the patient has continued quite well. It is worthy of remark that both this patient and the former one were labouring under severe spasmodic coughs, and in both instances they got well under the use of the morphia.

The third case was that of a young lady, 24 years of age, who had long been labouring under dyspepsia, and latterly suffered acute pain, which came on an hour or two after taking food; she had been taking opium an hour before each meal, and had also had a blister on the pit of the stomach, but without obtaining relief. On the 10th of May, I directed half a grain of the muriate of morphia to be applied night and morning: after the second application there was no return of pain, and after six applications it was discontinued, and by the use of chalybeates, &c. she has been restored to perfect health.

The fourth case, which in point of date should have been placed second, was a man 40 years of age, who was suffering under an attack of sciatica, which not yielding to the usual remedies, I ordered a blister to be applied over the hip-joint; this was on the 23d of April, and the day following he commenced the application of half a grain of the muriate of morphia night and morning. This not affording relief it was increased to a grain, and continued to the 2d of May, at which time the patient felt so little remains of uneasiness that he resumed his usual occupations.

MEDICAL GAZETTE.

Saturday, June 17, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

PUBLIC HYGIENE.

WE concluded our last article with some remarks on the adulteration of medicines, and on the bad quality of the drugs supplied to institutions where the constant presence of persons well able to detect the fraud might be supposed to operate as a check upon the most greedy contractor. This apparent fraud is, no doubt, sometimes merely an extreme indifference; the druggist sells with the carelessness with which he bought. Should the time ever arrive when pharmacology shall be cultivated as it deserves, it will be thought necessary that the foreign correspondents of the importers of drugs should be skilled in the materia medica; till then, we must apply to the druggists what James I. said of the grocers of his time:—“They bring home rotten wares from the Indies, Persia, and Greece, and here with these mixtures make waters, and sell such as belong to apothecaries, and think no man must control them, because they are not apothecaries*.”

But how can we be surprised at reck-

* Answer to a petition of the Commons, 1624.

lessness in matters where extreme accuracy is difficult of attainment, when we find it in points where correctness is as easy as it is necessary? The correspondent whose valuable communication we referred to in our last article, tells us that in more than one instance he found white arsenic in a bottle bearing different labels on its opposite sides. We can add, from our own experience, that it is not uncommon to see a discrepancy between the medicine and the label, even in those jars which occupy the post of honour in the first rank of the window.

On the Continent the sale of poisons is restricted by law; and it would seem by the following passage that it was proposed some years since to diminish the chances of accidental poisoning in England by legislative enactment. Dr. Beck, from whose work we take it, has omitted the passage in his last edition, probably on account of the bill having been rejected.

“In England, a bill was pending before parliament in 1817, and which doubtless passed, directing all apothecaries and others to affix a printed label with the word “*poison*,” on every phial, box, or parcel, into which they put white arsenic, corrosive sublimate, acetate, carbonate, muriate or nitrate of barytes, oxalic acid, sugar of lead, prussic acid, tartar emetic, solid opium, or laudanum, sold by them. All arsenic kept for sale is to be mixed with carbon, and all oxalic acid with rose-pink. Surely some or all of these provisions might be incorporated with advantage into our code of laws.”

MM. Chevalier and Boys de Loury have proposed—1. To mix white arsenic employed for corn, or medicinally, with powdered aloes, in the proportion of ten parts of aloes to ninety of arsenious acid. 2. To mix the arsenic intended to poison rats with Prussian blue, or soluble indigo, in the proportion of ninety parts of arsenic to ten of colouring matter. 3. To mix fly powder with a tenth part of its weight of solu-

ble blue. The Editors of the journal from which we borrow these suggestions*, object that though the colouring of arsenic might prevent accidents, the wilful poisoner would select some other means. But, in the first place, accidents with arsenic are by no means rare. MM. Chevalier and Boys de Loury inform us that sixteen persons were poisoned at Bressières in 1828, owing to a sack having been used for flour, which had previously contained grain prepared with arsenic for sowing; and that eleven persons were injured by a similar accident at Bourbonne-les-Bains, in 1833.

And, in the second place, even the wilful poisoner would often be utterly thwarted by an additional difficulty. To many, difficulty is impossibility.

7. The immediate admission of the indigent sick into hospitals would save many lives. At present several days are often consumed in seeking for a letter from a governor, which, when obtained, can be presented only on one day in the week, except in a few pressing cases. We fear that we are treading on very delicate ground when we venture to suggest that, in order to accomplish the end in view, the superfluous funds of certain institutions might be transferred, without any public injury, to other less fortunate establishments. If it were found, however, that the exuberant wealth of the richer institutions was not required by any general hospitals, it might be appropriated to the benefit of some special asylums, such as those for the deaf and dumb, which are far from being able to admit all who need their aid.

Again, several counties in England are still without lunatic asylums for paupers,—a deficiency so glaring, that it is enough to mention, without dilating upon it.

8. Would it not be worth inquiring

* British and Foreign Medical Review, vol. ii. p. 596.

whether Lying-in Hospitals fulfil the object for which they are intended—namely, that of saving life? It would certainly seem, from the tables appended to Dr. Merriman's admirable work on difficult parturition, that the mortality is greater in Lying-in Hospitals than either in dispensary or private practice.

Thus at the *Maison d'Accouchemens*, at Paris, there were 700 deaths among 17,308 women, or 1 in 25 (Merriman's Synopsis, 4th edit.); at Vienna, 211 deaths among 18,642 women, or 1 in 93; at Milan, 10 deaths among 269 women, or 1 in 27; at Dublin, 119 deaths among 10,199 women, or 1 in 86.

On the other hand, in the practice of the Westminster General Dispensary, under Dr. Bland, there were only 7 deaths among 1897 women, or 1 in 270; in Dr. Merriman's private practice, 14 deaths among 2947 women, or 1 in 210; in the practice of "a physician of eminence," 30 deaths among 2882 women, or 1 in 100; in the practice of a physician, 107 deaths among 10,190 women, or 1 in 100.

The last table gives the average number of deaths in child-bed in London, taken from the Bills of Mortality. It has been formed by adding together the articles *christenings* and *abortive or still-born*, and comparing them with the *deaths in child-bed*. This gives an unfavourable view of the mortality, as the deaths of dissenters have been usually registered, but not their baptisms. Still, however, the forty years, from 1780 to 1820, present a more favourable result than the registers of Lying-in Hospitals: thus from 1780 to 1790 the deaths in child-bed are 1 in 107; from 1790 to 1800, 1 in 113; from 1800 to 1810, 1 in 106; from 1810 to 1820, 1 in 108.

It would be more satisfactory, certainly, if we could compare these results with those exhibited* by the registers of the Lying-in Hospitals

of London; still, as far as they go, they seem to show that the assembling together large numbers of lying-in women under the same roof is unfavourable to their recovery: whether this proceeds from an undefined contamination of the atmosphere, or whether it is to be attributed to the contagiousness of puerperal peritonitis.

9. It is much to be wished that authenticated registers of the treatment of disease were kept at all hospitals, and brief abstracts of the results published at reasonable intervals. How can it be known whether simple fever, to take an instance, is best treated by antimony, or calomel, or salines, or the expectant method, unless by counting the results when the disease has been treated on the large scale? For want of such counting, so acute an observer as Dr. Hennen was reduced to doubt whether fever was not equally well treated by the bold methods of British practitioners, the do-nothing practice of the French, and the barbarous system of the Russians*.

10. Dispensaries, as at present conducted, might perhaps be advantageously dispensed with. The constant disappointment of the medical officers, who vainly imagine that attendance on dispensaries will obtain them private practice, and the negligent attendance to which this disappointment leads—the interminable squabbling of the committees, composed of a knot of neighbouring tradesmen, whose orgies the gentlemen on the list are naturally unwilling to partake—and the wretched style (even theoretically, much more practically) in which dispensaries are *worked*—would induce the philanthropist to rejoice in any substitute by which the abolition of these institutions might be effected. We should propose, as a substitute, the addition of one or

* Medical Topography of the Mediterranean, p. 336.

two assistant-physicians and surgeons to each hospital. They might take the whole of the out-patients, and, assisted by the elder pupils, might visit those patients who required it, at their own homes. Besides getting rid of the faults of the present dispensary system, this would be the very best mode of clinical instruction for the young practitioners, as we suggested in our late article on that subject.

11. The neglect of bathing in this country has long been a subject of complaint among hygienic writers. But little has hitherto been done to provide the mass of the community with baths at a low price; and the prejudice which confines bathing to the cold bath is so rooted, that thousands who could afford the warm bath are deterred from using it during that large portion of the year when the other is impracticable or absurd. Mr. Buckingham's bill for establishing public walks, baths, &c. promises very fair; but though read a second time last week, we fear it is doubtful if it will become a law this session. It is singular that though we have had joint-stock companies set on foot for the most fantastic purposes, even down to the making of sugar from beet-root (as if Jamaica and Demerara had vanished), we have not yet seen a Bath Company.

Something has been done, however, for the encouragement of tepid bathing. In one London establishment, if the card before us speaks truth, there is a tepid bath 210 feet by 60, which may be used at a very moderate price.

12. An excellent contemporary, when speaking of hygienic treatises, says, "numerous books, and some of them of great merit, have of late years been prepared for the poor; but the poor never see them. They are read and admired by all except those for whom they are intended, and whom they would most instruct. To bring useful

knowledge into poor men's houses is still the great difficulty *."

It must be confessed that there is a grievous hitch somewhere in the diffusion of knowledge, when the treatises intended for this purpose are *never* seen by those for whom they are written. It would not be difficult, however, to discover more than one reason for this. The first is, that the reading these books presupposes a degree of instruction which the intended readers have not attained. Another is, that persons living in the filth and misery described in the article we have just quoted, and in the passage we extracted from Dr. Hodgkin's lectures last week, cannot spare even a penny for literature; whereas few of the treatises in question cost less than four or five shillings. But why should not the essence of these treatises be distributed gratuitously by the disseminators of really useful knowledge? A host of small essays would be desirable, were it only to restore the sinking confidence of the public in vaccination. The presence of a sweeping epidemic cannot, surely, be requisite to stimulate our exertions; for the fevers ordinarily prevalent in London require the *prophylaxis* of scouring and whitewashing as much as the Asiatic cholera.

13. French writers insist very much on the efficacy of sanitary measures in diminishing the frequency of syphilis; and Dr. Ratier, in a well-written essay, which obtained a prize at Brussels, and is to be found in the *Annales d'Hygiène* for October, 1836, even holds out a hope of the entire extirpation of the disease.

In one of the notes added to Dr. Ratier's memoir by M. Trébuchet†, we find it stated, that in consequence of the medical examination of prostitutes

* The British and Foreign Medical Review, vol. i. p. 361.

† M. Trébuchet is "chef du bureau de la salubrité à la préfecture de police," and therefore a high authority on the subject.

in Paris, there has been a gradual improvement in their health since the beginning of the century. In 1800, one woman in nine, among the licensed prostitutes, was diseased; but in 1834, only one in sixty. These examinations take place once a week; but Dr. Ratier thinks that they ought to be at least once in four days. To shew the difference between statistical facts and statistical guesses, between the *méthode numérique* and ingenious conjectures, we may observe, that while of the regular prostitutes only one in sixty is infected, Dr. Ratier supposes that in ordinary society you will find thirty syphilitic patients among a hundred chance tenants of a drawing-room*. — But this must be taken, we suppose, as a grave pleasantry.

Dr. Ratier's general conclusions are, that we must zealously seek the means of checking the propagation of the venereal disease, and shall attain our object by the following measures:—

First, by multiplying all kinds of aid for venereal patients—namely, special as well as general hospitals, and advice given publicly and gratuitously, together with medicines.

2dly. By diffusing correct notions of syphilis, and the treatment which it requires.

3dly. By punishing quacks, or rather by bringing them into discredit through exposing their tricks, and shewing that they sell bad physic very dear.

4thly. By making the *surveillance* of women of the town more rigorous and accurate, and increasing the number of visits, so as to seclude the infected as soon as possible.

* "On sait ce que disait Voltaire: que quand deux armées de cinquante mille hommes étaient en présence, il y avait trente mille vérolés de part et d'autre. On pourrait en dire autant à proportion du premier salon où il y a cent personnes; et tel qui fait bien haut de la pudeur serait fort embarrassé s'il fallait dire la vérité sur son propre compte."

5thly. By encouraging the employment of preservative means, and informing the public how they act; as ignorance renders the preventives illusory, and even hurtful, from the false security they inspire.

6thly. By adopting the mode of treatment that most abridges the duration of the primary local symptoms, which are the most essentially contagious.

Dr. Ratier says that all the other essays which were sent in for the prize admit the possibility of extirpating syphilis, or at any rate of mitigating it extremely, and that they propose for this purpose simple, rational, and easy means.

Lastly, we would inquire whether hygiene, both public and private, should not be made an indispensable part of every medical education; or, if it be thought unadvisable to add another distinct subject to the long list, whether it would not be well for all examining Boards to insist upon public hygiene being a section of every course upon forensic medicine?

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Extraordinary Meeting. — June 13, 1837.

THE PRESIDENT IN THE CHAIR.

On Pulmonary Excavations.

By Dr. KINGSTON.

A FEW observations by Dr. Kingston were read, referring to his former paper of some weeks ago. He showed that five of his cases of pulmonary excavations independent of tubercles, had been noted by Dr. J. A. Wilson, Dr. C. J. B. Aldis, and Mr. Malton, as having been considered such by them, and as having occurred in the space of six weeks. He likewise cited passages from Dr. Baillie, from Dr. Abercrombie (*Edinburgh Medical and Surgical Journal*, 1821), from Dr. Alison (*Transactions of the Edinburgh Medico-Chirurgical Society*, 1824), and from Sir A. Crichton; showing that these distinguished pathologists, among others, con-

sidered pulmonary excavations, depending on peripneumony and unconnected with tubercle, as common.

Report of a Case of Secondary Measles. By JOSEPH MOORE, Physician to the Royal Freemason's Female Charity, and Vice-President of the Phrenological Society of London.

The patient whose case is here detailed was severely affected with measles at the age of twenty-two months, in May, 1836, at which time all the other children in the family (five in number) were successively affected; all, with one exception, severely. Every trace of the disease had disappeared in the child first mentioned by the 10th of June. On the 31st of July she became the subject of a second attack of rubeola, as well marked as the first; from which she was convalescent on the 9th of August, but the skin did not speedily resume its natural colour. Measles did not prevail as an epidemic at the time of the occurrence of either of the attacks.

A Case of Retention of Urine from Tumors within the Bladder; with a sacculated Bladder, and large accumulation of Calculi. By J. B. ESTLIN, F.L.S.

The author, in his paper, furnishes the sequel of the narrative of a case recorded in the second volume of the *MEDICAL GAZETTE* (see page 394); the subject of which suffered at the time of the attack formerly related from a tumor in the abdomen, extending from the eleventh rib on the right side to the symphysis pubis. This tumor having been discovered to be capable of being emptied by a catheter, was regarded at that time as consisting of a sacculated elongation of the bladder, and by the frequent use of the catheter it entirely disappeared. Since the time referred to, the patient's health gradually declined. He required the more frequent introduction of the catheter; muco-purulent matter was occasionally discharged with the urine, and sometimes small scales of calculous matter stuck in the apertures of the catheter.

In February of the present year the patient died from an attack of influenza, when a post-mortem examination revealed the nature of the tumor formerly observed, the right ureter being enormously enlarged in calibre, and thickened in its coats. Three distinct semi-cartilaginous tumors were connected with the prostate gland, around the orifice of the urethra, forming a complete valvular impediment to the exit of the urine. A very large number of calculi, varying in size from that of a chestnut to that of a sweet-pea, were found in the bladder, and in sacculi

formed between its parietes. Some of these were so embedded in the pouches that they could not be removed by squeezing them out. The calculi, on analysis, were found to consist of phosphate of lime; and the author observes that no material suffering resulted from their presence.

ROYAL INSTITUTION.

Friday, June 9, 1837.

Mr. Faraday on the Cutting Instruments and Arrows of Savage Nations.

THIS was the last meeting for the season. Mr. Faraday introduced the subject with his usual happiness, and stated that it was intended that the present should be the first of a series of lectures to be given on the early progress of the arts among barbarous nations. The substances used by savages as cutting instruments are, all sorts of stones having a chonchoidal fracture, such as pitch-stone, obsidian, chalcedony, flint, and rock crystal. They shew the greatest ingenuity in cleaving these stones, and in attaching them to pieces of wood by means of sinew and vegetable fibre, or gum. A great many different specimens were exhibited, many of which were very curious, and especially tubes of about eight feet in length, through which very light arrows are blown with sufficient force to destroy large animals. The arrows are usually headed with stone, but occasionally with hard wood or other substances, such as the spines of fishes.

RADIUS DRIVEN INTO THE CHEST.

DR. FORGEMOT details a case in which a mortar charged with seven ounces of powder went off while a canonier had his hand on the muzzle. The hand and lower arm were utterly smashed, and the bones blown partly away, and some of them, the metatarsal, against the parietes of the chest, where they inflicted two wounds. The arm was amputated, and the pieces of bone, &c., picked out of the thoracic integuments, but he died soon after. On examination it was found that the pectoral muscles were much lacerated, the second and fourth ribs broken, and that near the sternum the head of the radius had passed into the chest, and superficially wounded the lung. There was effusion into the pleura, but the vessels were uninjured. — *Recueil de Memoires de Med. Chir. et de Pharm. Militaires.*

MEDICAL ATTENDANCE ON PAUPERS.

(Communicated by Mr. Rumsey.)

My chief objections to the present plan, as adopted by the Poor-law Commissioners, are: the degrading character of the system of tender—the insufficiency of remuneration—the employment of too few practitioners—and the division of the unions into districts, by which the surgeons and their patients are frequently removed to a great distance from each other; thereby increasing the trouble to both parties, as well as preventing that prompt attention to all cases of sickness, so necessary to their successful treatment.

The plan which appears to me best calculated to meet the various difficulties of the case (particularly in rural districts), is as follows:—

That three competent impartial persons (two to be of the medical profession), who shall neither be biassed by the rate-payers nor the surgeons, should be appointed in each county of England and Wales, to fix the amount which they may consider sufficient for the payment of medical attendance upon the poor, in each union.

The amount being fixed, all surgeons legally qualified, and of good character, who may have been resident in, or near, the union, during the last year, should be made acquainted therewith, and invited to attend the paupers upon the following conditions—viz. of each surgeon receiving at the end of every quarter his proportion of the sum fixed upon for the payment of medical relief for the paupers of the whole union, according to the number of certificates held by him at the termination of such quarter.

The relieving officer (or overseer in cases of necessity, or where the relieving officer lives at a distance) should give to any pauper who may be taken ill, a certificate “that he is a pauper, and resides in the union;” with directions to take it to the union surgeon living nearest to his residence,—taking care not to give more than one certificate for the same illness.

The workhouse to be attended in quarterly rotation by such surgeons as may reside at a convenient distance; and in cases of sickness in the workhouse, the master of the house should sign the certificates, and send them to the surgeon for the quarter.

The surgeons should enter into an engagement to attend all paupers who may present the necessary certificates, and in other respects to comply with the orders

of the Board, for keeping the necessary books, &c. &c.

By this simple plan the odious system of tender will be avoided—the sick will have prompt attendance—every respectable duly-qualified surgeon will have the option of attending the poor, or not—and those who do attend will be paid precisely in proportion to the trouble and expense incurred; and the members of the profession will be satisfied that they have been fairly remunerated for their skill and labour. Some paupers may probably apply for very trifling ailments; but this will not increase the expense to the union; and as all the surgeons will have their share of trifling and severe cases to attend, it will make no difference to them in the amount of money to be received at the end of the quarter, whether many or few certificates have been issued: each surgeon's proportion of the sum-total fixed upon will remain the same, although each certificate may bear a less value.

JOHN TWEEDALE, M.D.

Lynn, Norfolk,
March 12, 1837.

DR. BUDD IN REPLY TO DR. WILLIAMS.

To the Editor of the Medical Gazette.

SIR,

IN the MEDICAL GAZETTE of last week are published some remarks by Dr. Williams, on my observations on the stethoscope, which perhaps demand from me a little explanation.

After a few preliminary observations, relating principally to himself, Dr. Williams desires your readers to contrast some of my observations (which, he says, appear to be put forward as original) with others previously published by him. The first passage he adduces from his own writings is certainly very similar to one which I have introduced as a quotation from Laennec; in which, after enumerating the different substances he had tried, he gives the preference to light woods and canes; at the same time expressing his surprise that observation should lead him to a result which he considered contrary to a physical law.

Dr. Williams and I have both observed that this result is not really contrary to the laws of acoustics; and in making this observation, Dr. Williams had certainly the priority, and I must consequently renounce all the merit due to its originality.

The two following extracts from his

own writings are, I suppose, made for the purpose of showing that he was aware that "when sounds are propagated through any medium, they will generally undergo a reflexion at any change of medium, and that the reflexion will be more complete, and consequently the transmitted sound more feeble, as the media differ more in the physical properties that influence the propagation of sound,"—a law which, he says, has just been noticed by Dr. Budd, and which appears to be put forward as original. Now I distinctly stated it as a recognized principle of acoustics, and have no greater pretensions to its discovery than to that of the law of gravitation.

In the Treatise on Sound, by Sir John Herschel, from which, as Dr. Williams remarks, I have quoted so largely, and which he must therefore suppose me to have read, the law in question is not only stated in general terms, but, in a particular case, mathematical analysis has been applied to determine what will happen when a wave of sound propagated in one medium meets with a different medium; and the author has deduced the condition requisite in order that the sound may suffer no reflexion at the common surface of the media. He moreover refers to the writings of Euler, Poisson, and Weber, for solutions of the problem in particular circumstances; so that if Dr. Williams pretends that the principle in question is a discovery of his own, he must settle the point with far greater authorities than myself.

In the next passage Dr. Williams says, "The sounds heard by auscultation are several in nature and in origin. Those of the voice and respiration are produced in air; that is, air is the vibrating medium. The sounds accompanying the motions of the heart, on the other hand, originate in a solid or liquid. This circumstance suggests the expediency of varying the conductor, according to the principle formerly pointed out, that a sound is most effectually transmitted by bodies of the same density as that in which it is produced," &c.

He subsequently says, "Thus far Dr. Budd's views do not differ from mine; but as mine have been some years before the public, it is rather extraordinary that he has not adverted to them."

Dr. Williams must surely have misunderstood me, or he would not have said that I had adopted the observations above quoted. I have nowhere said that the conductor should be varied as the sounds have their origin in the rare or dense contents of the chest. I have considered merely the *parietes of the chest* in vibration, and the transmission of these vibrations to the material of the instrument—a transmission which

I have supposed to take place in the same manner, and in the same degree, whatever be their original source, and the perfection of which I have supposed to depend solely on the relation existing between the physical properties of the material of the stethoscope and those of the parietes of the chest.

The explanation which I incidentally offered of the phenomenon of *œgophony* appears to have been previously made by Dr. Williams. If at the time of writing it I had been aware of this, I should have suppressed it, or have acknowledged the claims to priority of Dr. Williams, which I now beg to do most fully, and to assure him that it gives me pleasure to find that the opinion is supported by the weight of his authority.

I have thought it necessary to make the preceding observations on the points on which Dr. Williams has supposed us to agree: with respect to those on which he acknowledges that we differ, I shall say nothing, being perfectly of opinion with Dr. Williams, that error will fall of itself.

In conclusion, I beg to assure Dr. Williams that my observations were offered with very slight pretensions; that I was gratified at their being deemed worthy of the attention of the College of Physicians; and that I should have felt flattered by the notice he has since taken of them, but for his courteous declaration that I was indebted for it to his "jealousy of the attempts of those who, labouring in the same field, evince an imperfect knowledge of the science, or a want of experience in the art."

With many apologies for occupying your pages with matter which may appear of a controversial nature,

I remain, sir,

Your obedient servant,

GEORGE BUDD.

1, Baker-Street, June 7, 1837.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

Meeting of the Southern District Branch.

To the Editor of the Medical Gazette.

SIR,

I BEG to transmit you an account of the meeting below for insertion in the GAZETTE; I hope it will not be too long to find space in your pages.—I am, sir,

Your obedient servant,

W. J. WICKHAM.

Winchester, June 14, 1837.

The first annual meeting of the "Southern District Branch of the Provincial Medical and Surgical Association" was held at Winchester, on Thursday, June 8th.

It was unanimously attended by the medical practitioners of the southern counties, amongst whom were several of the most eminent men within the district. The chair having been vacated by Dr. Forbes, was taken by Dr. Crawford, of Winchester.

The report of the Secretaries was read, by which it appeared that ninety-seven practitioners had already enrolled themselves on the list of members.

Several interesting cases were announced as received by the Secretaries, and an excellent paper on the "Treatment of Hypertrophy of the Heart, especially in reference to the beneficial use of small doses of mercury in these affections," by Mr. Salter, of Poole.

Dr. Crawford next delivered an able address on the objects and advantages of the Association, and brought various proposals respecting the conduct of the Society under the consideration of the meeting.

He stated that it might perhaps be asked, what additional facilities would such associations afford for advancing the science of medicine, since there are a host of periodical journals freely opened for the promulgation of every new fact or opinion? His reply to which would be, that these channels of information, though we must principally look to them for the speedy and extensive circulation of useful intelligence, do not arrest practitioners with any actual solicitation or claim for exertion; whereas associations such as these they had just entered upon, would knock, as it were, at every man's door, and ask him to contribute the fruits of his study and experience; nor could he entertain a doubt that a spirit of emulation would thus be excited throughout the profession, which could not fail to elicit a vast fund of valuable information that would otherwise have died with its possessors. He considered that there were few among them who would not experience a lively and homefelt interest in such a society, and probably take a part in its transactions, were it simply because it was connected with their own immediate county or neighbourhood, for who is there, said he, that does not covet distinction among the people to whom he is familiarly known? He did not think the proverb "that no man is a prophet in his own country" holds good in the medical profession; on the contrary, the talents of its members were more frequently overvalued than overlooked; nevertheless there were many instances, undoubtedly of great

zeal and acquirements, but imperfectly recompensed by public favour; and this he conceived to arise from a want of proper fields for their display among those who had the power of rewarding them; and if there were any instances of the kind within our own district, it might justly be hoped that their Association would operate as a remedy, by making them known. No one could, on due consideration, deny the incentives which such Associations present, both to the acquisition and the communication of medical knowledge. They would at once encourage the diffident, stimulate the indolent, and sustain the more ardent in their pursuits; while, by concentrating the talents of vast numbers of the profession on disputed points, they would cause more ripened deductions to be formed than could be supplied by the isolated labours of any single individual, however learned or ingenious. To how good an account, said he, may this concentration of power be turned; for example, in bringing the value of new modes of practice to a speedy and satisfactory proof. The result of years of individual investigation might be thus obtained in as many months. In like manner would the nature of existing epidemics, and the most successful mode of treating them, be much more immediately and certainly made known.

In addition to the diffusion of information by means of written essays and combined reports, he adverted to the important benefits which might be expected to accrue from their periodical meetings, though in a noiseless and unimposing way, by the opportunities they would afford the members of communicating *orally* with so many of their brethren on professional subjects.

In this manner might the younger members avail themselves of the experience of their seniors on any difficult points exciting at the time their interest or anxiety; and he thought they might expect that many of the latter would instruct them by the results of their observations in that oral manner, who were not possessed of sufficient time, confidence, or literary talent, to induce them to put the knowledge they possessed into writing.

He next adverted to the influence which such Associations would have in protecting the interests of the profession. Hitherto they had been entrusted solely to the care of the metropolitan corporations; and these were neither possessed of sufficient powers for the purpose, nor were they always sufficiently active in using such as they did possess; indeed, they had not in all instances interests identical with that of the provincial practitioners.

When occasions should in future arise, however, these Associations would be able to address authoritative representations to the legislature. In fact they would themselves, as it were, constitute the parliament of the profession. Independently of the mere pecuniary interests of the profession which such Associations were calculated to subserve, he considered them admirably fitted to raise the dignity and respectability of provincial practitioners; they would feel themselves thus more intimately bound up with each other, and be more watchful over the character of the profession. And would not that character, said he, be elevated in the eyes of the public, when, instead of witnessing their jealousies, and too often unscrupulous rivalry, it beheld them thus cordially uniting for the advancement of their knowledge, acting like true disciples of science, and members of a truly liberal profession.

He next entered upon the proposals for their future plan of proceeding, upon which the resolutions below were founded; and he concluded by repudiating the charge of too great ambition, which might, perhaps, be applied to their aim and expectations. He would remind those who might be inclined to advance such a charge, that heretofore the provinces had sent forth many of the most illustrious writers and practitioners in medicine. They could boast, in olden times, of their Caius and their Radcliffe, famous as physicians during their lives, and illustrious through succeeding ages for their noble and enlightened benefactions to the universities and our profession. In past times also they reared their Willis and their Cheselden, their Cullen and their Hunter. The ambition of all these, indeed, had ultimately carried them to the more ample field of a metropolis. But were we to enumerate the list of their predecessors who never forsook the provinces, yet hold distinguished places in the annals of medicine, they might justly indulge in feelings of pride as well as of emulation, when they could adduce among those the names of Highmore, Mayow, and others in earlier time; and in the age just past, those of Darwin and Beddoes, and Currie and Percival; Parry and Hey, and Dalton and Jenner; and while they still possessed among them such men as Blackall, Barlow, Prichard, Hastings, Hodgson, James, Crosse, and many others (of whom some were then present), it surely was not presumptuous for them to disclaim the character of inferiority which was sometimes apt to attach to provincialism. For the purpose of destroying such a notion, it was well for them thus to combine and endeavour to show that there might be

much ingenuity, talent, and zeal, in the more secluded walks of the profession, of which the world at large might otherwise have ever remained in ignorance.

The following were among the resolutions agreed to by the meeting:—

That the annual meeting, in June 1838, be held at Salisbury, and that Dr. Fowler be elected President for that year, and Mr. Winzar local secretary.

That a Committee be appointed to draw up a digest of the additions made to our knowledge in practical medicine and surgery during the ensuing year, and the report be read at the next meeting. Dr. Forbes, Dr. Havier, Dr. Buller, Mr. Mayo, and Mr. Sampson, consented to undertake the task.

A Committee was appointed to report on the nature of such epidemics as may occur during the year. A number of gentlemen dispersed throughout the district were nominated to this Committee.

A Committee was also appointed to watch over the interests of the profession, and to report on any proposed measures of legislation by which those interests are likely to be affected.

It was considered desirable that a prize should be given to the writer of the best essay on some appointed medical subject, and a subscription opened for that purpose.

It was recommended that sectional meetings should be formed by members in their respective neighbourhoods, to discuss medical subjects, and to prepare and furnish matter of interest to the Society.

Members were requested by the meeting to supply reports of hospitals, dispensaries, and of their private practice; also to furnish the Society with topographical accounts and meteorological observations.

MEDICAL CHARITIES IN IRELAND.

MEETING OF THE DUBLIN COLLEGES OF PHYSICIANS AND SURGEONS.

ON Thursday, the 8th instant, at four o'clock, a very numerous general meeting of the Fellows, Members, and Licentiates of the Colleges of Physicians and Surgeons, was held at Morrisson's Hotel, "for the purpose of considering the provisions of a bill now in progress through parliament, for the better regulation of Hospitals, Dispensaries, and other Medical Charities in Ireland." At four o'clock Dr. MARSH was called to the chair.

Dr. JACOB proposed the first resolution, which was to the effect—that it was the opinion of the meeting that a legisla-

tive enactment to provide for the support of medical charities in Ireland, and procure the application of the funds to their legitimate objects, was desirable.

Dr. WILLIAM STOKES rose to propose an amendment to the resolution, upon the ground that some regulations were necessary for the improvement of abuses.

Dr. COLLINS suggested that more time should be allowed for the consideration of the resolutions.

Dr. LENDRICK concurred in opinion with the gentleman who preceded him.

Dr. O'BEIRNE observed, that probably the gentlemen present were not aware that the bill now before parliament would be read upon the 15th; and, therefore, unless they took immediate steps, they would not be able to place the necessary materials in the hands of the ministers of the crown.

Dr. BRADY considered that the gentlemen who were averse to the adjournment had no cause for apprehension upon the ground of not being in time before the legislature, when they took into account the slow rate at which modern legislation was carried on.

After a long discussion, the CHAIRMAN put the amendment of Dr. Collins, which was rejected, and the proceedings were resumed.

The CHAIRMAN then put the first resolution to the meeting, and it passed unanimously.

Dr. JOHN CRAMPTON proposed the second resolution, which was to the effect—that the establishment of a board of inspectors, if composed of well educated, independent, and experienced members of the profession, was calculated to render the charities of Ireland more valuable, and improve the situation of the medical attendants by defining their duties and securing them adequate remuneration. It was necessary that the inspectors should be well educated persons, of course taking it for granted that they were members of the profession. They should all possess the necessary qualifications entitling them to fill the situations; they should be independent, not biassed by any party feeling, or dependent upon the smiles or frowns of a great man in any part of the country. They should be perfectly independent. The establishment of such a board would render the situations of medical attendants throughout the country much more comfortable than at present; not that he wished to throw any imputation upon them, for he believed them to be a well educated and a hard working class of men.

The SURGEON-GENERAL considered that the duties of inspectors should be more intelligibly and fully defined. Nothing

could be less advantageous to the profession than having inspectors appointed with such duties as the resolution set forth were to be performed by them. Was any thing more calculated to lower a medical man than to have an inspector over him? He entirely objected to the practice and principle of inspectors interfering in the least with the treatment and management of a patient who was under the care of a medical practitioner.

Dr. O'BEIRNE begged to say a few words in reference to the establishment of the board of inspectors. The intended constitution of the board was four inspectors—all of them men invested with equal powers; there was neither a head nor a tail to it. He wished to point out a case to show the injury which the board might inflict upon the gentlemen connected with the medical institutions of Ireland. Take the case of an inspector visiting an hospital, and making unfavourable reports of it, and probably unjust recommendations. To whom were the medical officers to appeal? Was it from one inspector to another; or should the case be referred to the consideration of the superintendent? The Poor-Law Commissioners were to possess the control of those inspectors, and those Commissioners were, indeed, very incompetent to decide upon matters which were purely medical.

The SURGEON-GENERAL objected to the omission of not specifying and defining the duties of the inspector. For his part he would not act as a medical attendant in any hospital if he were to be interfered with by an inspector.

Mr. CUSACK observed that the section of the act making the inspectors omnipotent over medical charities had actually passed.

The CHAIRMAN then put the resolution, which was carried with only a few dissentient voices.

The SURGEON-GENERAL proposed the third resolution, which was to the effect that the power to be entrusted to the inspectors was so vague and indefinite, and so liable to misconstruction and arbitrary exercise, that the meeting protested against it.

Dr. W. STOKES seconded the resolution.

Mr. COLLES proposed the fourth resolution, which was in substance as follows:—"That the meeting observed with surprise and regret, that the laws securing payment to the medical attendants of infirmaries, fever hospitals, and dispensaries, are about to be repealed without remuneration, and even the 100*l.* a year, paid for nearly seventy years to each of the surgeons of the county infirmaries, was withdrawn, and applied to the payment of

the board of inspectors, which was exceedingly unjust, for those gentlemen were persons of considerable experience and ability." He would observe that it was extremely likely, nay, almost certain, that the enactment, as stated, did not intend to have a retrospective but a prospective tendency; but upon trying to construe the act in that manner, he found it was impossible to give it any other interpretation but this—that the money was to be withdrawn from the practitioner, and applied to the payment of inspectors. It would be all very just and proper, if the present gentlemen were left undisturbed, to apply the money to the purposes of the board, instead of appointing successors to those gentlemen, but he could not conceive any thing more unjust than to withdraw men from their situations who spent years in active service for the good of society. When they looked to the county infirmaries throughout Ireland, they saw that they were filled by men of the highest education and attainments, who were driven to accept situations in them because they had not the means of holding out competition in any of the large towns; in fact they had men of the first qualifications, who, if they were given only a fair field for labour, would be ornaments to the country and the profession. It was unjust to deprive those indefatigable men, many of whom had grown old in the profession, of the salaries which originally induced them to enter upon that profession. He could hardly think it possible that any legislature with its eyes open could introduce such a clause.

The CHAIRMAN then put the resolution, which passed.

Mr. CARMICHAEL proposed the fifth resolution, which was to the effect, "that ample security to remunerate medical officers should be required as an act of public justice, and a necessary security for the members of the profession, and a faithful discharge of their duties towards the poor entrusted to their care." He felt that medical men were worse rewarded for the public duties they had to perform than any body of men in the community. In fact it appeared to him that government, upon all occasions, evinced the greatest disparagement and even contempt towards medical men, and he congratulated the profession upon the meeting they held that day, which he hoped would be the *nucleus* around which medical men might combine and protect themselves in future. As instances of his assertion that government disregarded their interests, he would mention the attempt to introduce the Grand Jury Bill of last session, which was withdrawn solely in consequence of

the co-operation and combination of medical men, who objected to its provisions. They also saw what attempts were made to disparage medical men, by the extinction of every office of honour or emolument attached to the profession; for instance, the situations of Surgeon and Physician-General; that of State-Surgeon and Physician, and even the paltry salaries which the surgeons of the House of Industry had always enjoyed were withdrawn. If the professions had co-operated for their mutual advantage, they never would have been treated by the government of the country in this manner. We should also recollect another instance. At the time the cholera raged, a number of medical men were sent from Dublin to attend to the afflicted. At the very same period a number of young lawyers were employed to forward the registries. The former, for immense labour and imminent risk of life, had from one to two pounds a day doled out to them by the government; while the latter, for their comparatively trifling occupation, enjoyed the handsome payment of five guineas per day. Are medical men of an inferior rank of life to, or are they worse educated than lawyers? No, but they have no *esprit du corps* to preserve them from degradation, and instead of combining for their mutual support, they are eternally undermining and underselling each other. He, however, hailed the appointment of medical inspectors, because he considered that the profession would thus be brought into closer contact with the government. He trusted, however, that they would be well paid, for no man of ability and education would undertake the office unless he was well paid. If uneducated and inexperienced persons, who would be satisfied with trifling incomes, were appointed, the system of inspection would be more a bane than a boon to the profession and the country.

Dr. MONTGOMERY seconded the resolution.

The SURGEON-GENERAL said, he wished to answer the inquiry, in some degree, why medical men were undervalued by the government. When the question of taking the salaries from the officers of the House of Industry was first discussed, he was spoken to upon the subject by the Chief Secretary of the day, and every argument which he (the Surgeon General) could use to impress upon him the monstrous injustice of forcing medical men to perform such duties, and then leave them to find a reward for their exertions solely in the consciousness of having discharged their duties, was resorted to by him. But the answer given to him by the Chief Secre-

tary, indeed by every Chief Secretary, was, that there were upon his table bundles of letters from members of his (the Surgeon-General's) own profession, offering to undertake the duties gratuitously. He (the Surgeon-General) read these letters; of course it would not be proper for him to mention any names. Another answer to every argument in favour of the profession was, that in England no remuneration for such services was required; and Guy's and Bartholomew's Hospitals were instanced in confirmation of the assertion. To be sure there was to this objection a very satisfactory answer—namely, that there were schools attached to the hospitals cited, which produced from 1,500*l.* to 2,000*l.* per annum, and a physician or surgeon could very well afford to attend them gratuitously, when such emoluments were to be procured from the schools; but in Ireland the case was quite different.

Mr. CARMICHAEL observed, that if there were a regular central board, an opportunity would be afforded the profession, as in the case of the bar, to expose any violation of their laws.

Dr. KIRBY proposed the sixth resolution—namely, "That every well-educated member of the College of Physicians was eligible to be appointed to an infirmary, hospital, or dispensary; but it was necessary that a clause should be introduced defining the period of his education, and the nature and extent of his qualifications, and that unless such clause were introduced, or a bill containing such a proviso was brought forward, any alteration in the present law protecting the poor must be considered premature, impolitic, and unjust."

After some discussion the Chairman put the resolution, which was adopted.

Mr. COLLES was then called to the chair, and the usual vote of thanks having been passed to Dr. Marsh, the meeting separated.

LITHOTOMY.

OF 145 cases of stone presented to Mr. Dudley, of Lexington (America), he refused 10 as unfit for the operation. Of the other 135, 128 were completely cured, 3 children remained with fistulæ, and only 4 died—viz. one of pleuritis, one of renal abscess, one of nephritis, and the other of disease of the liver,—all long after the wound was cicatrized. These successful results he ascribes entirely to the careful preparatory and subsequent treatment which he always adopted.—*Observations on the Nature and Treatment of Calculous Diseases*, by B. W. Dudley.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, June 15, 1837.

Robert Row Carley, Laxfield, Suffolk.
Benjamin Kay Brydges, London.
Warren John Isbell, Plymouth.
William Hay, High Wycombe, Bucks.
Christopher Taylor, Coulston, Wilts.
Francis Daniell, Liskeard, Cornwall.
Francis Wm. Pittock, Elham, Kent.
John Friend, Rainham, Kent.
Edward Jones, Dawlish, Devon.
John Welch, Holbeach.
Augustus Henry Churchill, Oswestry, Salop.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, June 13, 1837.

Abcess	2	Hooping Cough . . .	16
Age and Debility . . .	29	Inflammation . . .	25
Apoplexy	1	Brain	4
Asthma	12	Lungs and Pleura . .	7
Cancer	3	Insanity	3
Childbirth	1	Liver, diseased . . .	4
Consumption	50	Measles	13
Convulsions	29	Mortification	2
Dentition or Teething .	8	Paralysis	4
Dropsy	11	Small-pox	6
Dropsy in the Brain . .	18	Spasms	2
Fever	12	Thrush	1
Fever, Scarlet	7	Unknown Causes . . .	13
Fever, Typhus	2		
Gout	1	Casualties	2
Heart, diseased	3		

Decrease of Burials, as compared with } 136
the preceding week }

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

June.	THERMOMETER.		BAROMETER.	
Thursday	8	from 30 to 59	29.89 to 29.83	
Friday	9	38 68	29.75	29.55
Saturday	10	46 67	29.57	29.61
Sunday	11	46 63	29.68	29.77
Monday	12	41 63	29.83	29.81
Tuesday	13	50 74	29.77	Stat.
Wednesday 14		51 73	29.72	29.80

Wind, S.W.

Except the 9th and 14th, generally clear; a very heavy fall of rain on the morning of the 14th. Rain fallen, .625 of an inch.

CHARLES HENRY ADAMS.

ERRATUM.—SERGEANT-SURGEON.

In the announcement of Mr. Keate's appointment in our last number, for "sergeant-surgeon "extraordinary," read sergeant-surgeon "in ordinary."

NOTICE.

We regret that we cannot give insertion to the rejoinder of Dr. W.—, except as *extra limites*, and at his own expense. It is a mere personal question, with which we should not feel justified in occupying our pages.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, JUNE 24, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, ESQ., F.L.S.

LECTURE LXV.

STYRACEÆ.

THIS family, regarded by some as a sub-order of Ebenaceæ, contains two officinal genera.

Styrax officinale.

History.—Hippocrates, Theophrastus, Dioscorides, and Pliny, speak of a substance which they term *Styrax* (στύραξ). Dioscorides says it is the produce of a tree like the quince, and that there are several varieties of it (all solid), and he mentions how it is adulterated. The best, he says, is unctuous, yellow, resinous, mixed with whitish lumps, and forms a honey-like liquid when melted: it comes, he adds, from Gabala [a Phœnician city], Pisidia, and Cilicia [countries of Asia Minor]. This is evidently the sort which more modern pharmacologists denominate *amygdaloid storax*. A worse variety, he says, is black, branny, friable, and covered with white mouldiness. This sort I presume to be very analogous to, if not identical with, the *common storax* of the shops—the “mouldiness” being the efflorescent benzoic acid: indeed the only character in which it differs is the colour;—but as Pliny, who copies the description of Dioscorides, omits the word “*niger*,” it is probable that the colour was inaccurately described. A third kind mentioned by

Dioscorides is a transparent tear-like gum, and emulating myrrh; but it was very scarce. Probably this was the variety which in modern times has been termed *storax in the tear*. The substances employed to adulterate storax were ligneous dust (produced by eroding little worms), honey, the sediment of the iris, wax, fat, &c.

In modern times various substances have been met with in commerce under the name of *storax*. Some of these are certainly produced by the *Styrax officinale*, while others have been referred to a plant belonging to the genus *Liquidambar*.

Botany.—The *Styrax officinale* is a native of the east, especially of Palestine, Syria, &c. It is cultivated in the southern parts of Europe, but yields no balsam there, at least for commercial purposes.

The stem of the tree is about twenty feet high. The leaves are alternate, petioled, ovate, blunt-pointed, entire; on the upper surface smooth and shiny, beneath whitish and downy. The inflorescence is a raceme of from four to six flowers. The calyx is inferior and monosepalous; the corolla is funnel-shaped, monopetalous, five-parted. The fruit, according to Nees, is a coriaceous, wrinkled, one, two, or rarely three-seeded capsule, which dehisces irregularly at the point, and commonly contains only one seed, of the size of a cherry-stone, and covered with a hard, woody, yellowish shell, under which lies a white kernel (nucleus).

It belongs to *Decandria Monogynia* in the Linnean arrangement.

Exudation.—If incisions be made into the stem of this tree, a resinous juice exudes, which, when somewhat hardened, constitutes one or more of the balsamic substances denominated in the shops *storax*. Some writers tell us that the exudation arises from the puncture of the stem by a little insect.

Physical properties and varieties.—Formerly storax was met with in the form of distinct, yellowish-white, or reddish-yellow

tears, about the size of peas: this variety constitutes the *styrax in the tear* (*styrax in granis*) of some writers. Frequently these tears are agglutinated so as to form masses which have some resemblance to pale galbanum: this kind is the *white styrax* (*storax blanc*) of Professor Guibourt. Both sorts, however, are exceedingly rare. I have never met with a single specimen of either in English commerce, and all the drug-dealers to whom I have applied were unacquainted with them. It is equally scarce in Paris; for Professor Guibourt, to whom I wrote for a sample, says that there was one fine specimen at a druggist's in Paris, but it was not for sale. "I discovered it (says he) with great pleasure, having established the distinction of that variety only from a scrap of one or two drachms." Another sort of styrax is in compact masses, of a yellowish or reddish-brown colour, and interspersed with white tears which have been compared to almonds: hence this variety has been termed *amygdaloid storax* (Guibourt), and by some *red storax* (Pomet). It is exceedingly scarce. I have a very fine sample, weighing nearly $2\frac{1}{4}$ ounces, for which I paid 24 francs per ounce. There is (or was a few years since) a magnificent piece, weighing 16 ounces, in the possession of a French *pharmacien*, who offered to give it up for 500 francs. Formerly this or the previous kinds were met with in reeds, constituting what was called *cane* or *reed storax* (*storax calamita*). A specimen, about the size and shape of half an orange, covered by some monocotyledonous leaf, is in the collection of the Royal College of Physicians of London.

The common storax now met with in the shops is imported in large round cakes, of a brown or reddish-brown colour and fragrant odour. It is brittle and friable, being very easily rubbed into a coarse kind of powder; yet it is soft and unctuous. When exposed to the air it becomes covered with an efflorescence of benzoic acid (which, to the superficial observer, looks like a whitish kind of mouldiness), and falls to powder. It appears to consist of some liquid resin mixed with fine saw-dust or bran. It seems probable, says Lewis, in his translation of Neumann's works, "that this common storax is the juice received immediately in vessels, and mixed with saw-dust enough to thicken it; the shops requiring, under the name of storax, a solid or consistent mass, and evaporation being found to dissipate its fragrance. At least I cannot conceive for what other purpose the woody matter could be added; for it is too easily distinguishable to have been intended as an imposition." This variety is called in the shops *storax vulgaris*, or sometimes, though

very improperly, *storax calamita*: it seems to be what some German pharmacologists denominate *scobs styracina*.

The *red-brown storax* of Guibourt is I find, on comparison, a distinct variety, though, like the kind just mentioned, it contains saw-dust. It is darker coloured, heavier, less friable, and by drying forms hard compact masses. A variety analogous to, if not identical with this, but in a fresher state, I have met with once only in English commerce: it was in a circular cake, about a foot diameter and four or five inches thick; of a dark (almost black) colour, with a shade of green, with a soft pilular consistence, considerable tenacity, and a most delightful odour. It was termed by those who sold it me, drop or gum storax, and was highly valued.

The substances known in the shops under the name of liquid storax are in all probability procured from the family *Balsamaceæ*, and, therefore, will be described hereafter.

Purification.—There are two methods of purifying the common storax of the shops. One is by digesting it in rectified spirit, filtering the solution, and distilling off the spirit until the balsam acquires a proper consistence. The other method is to press common storax between heated plates: but it is objectionable, since the heat volatilizes part of the essential oil and benzoic acid.

Chemical composition.—Although no regular analysis of storax has yet been effected, there can be no doubt but that the following substances (besides impurities) are contained in it:—

Volatile odorous oil.
Benzoic acid.
Resin.

Guibourt states that both white and amygdaloid storax, when treated by boiling alcohol, leave (independent of impurities) a small insoluble *white residue*, and the filtered liquid becomes turbid in cooling. Hence there appears to be some one or more substances present besides those just enumerated.

Neumann obtained from common storax the following results:—

Matter soluble in rectified spirit (benzoic acid, resin, and oil) ..	6.0
Gummy matter extracted from the residue by water	0.5
Saw-dust	1.5
	<hr/>
	8.0

Physiological effects.—Storax possesses stimulant properties, and is supposed more particularly to influence the mucous membranes, especially that one which lines the air passages. Hence it is commonly termed

a stimulating expectorant. In its operation it is similar to the balsam of Peru and Benzoin, but is less powerful than the latter. Applied to ulcers, in the form of ointment, it sometimes improves the quality of the secreted matter, and has in consequence been termed a detergent.

Uses.—Internally it has been principally employed in affections of the organs of respiration. In chronic bronchial affections admitting of the use of stimulants, it may be employed as an expectorant. It is also admissible in chronic catarrhal affections of the urino-genital mucous membrane.

Administration.—*Purified storax* may be exhibited in the form of pills, in doses of from ten to twenty grains. The *compound pills of storax* are composed of storax three parts, saffron and opium of each one part: hence their activity depends principally on the opium. They are useful in chronic coughs, and some other pulmonary affections. They are valuable also in another point of view: they enable us sometimes to exhibit opium to persons prejudiced against its use; the saffron and storax concealing the smell and flavour of this narcotic, while the name of the pill cannot discover the harmless deception. The dose is from five to ten grains. Storax is a constituent of the *compound tincture of benzoin*.

Benzoin officinale.

History.—As the ancients were acquainted with so many oriental vegetable products, we should have expected, *à priori*, that benzoin would have been known to them. But this does not appear to have been the case; at least we are unable to identify it with any of the substances described by the old writers.

Botany.—In 1787, Dryander published a botanical description of the tree which yields benzoin, and which he termed *Styrax Benzoin*. The structure of the fruit, however, has, by some later botanists, been considered sufficiently peculiar to constitute a new genus, which Blume has termed *Lithocarpus* (calling the species *L. Benzoin*), while Hayne terms it *Benzoin* (the specific name being *B. officinale*.)

This tree is a native of Sumatra, Borneo, Siam, and Java. Its stem attains a moderate height, and the thickness of a man's body. The leaves are oval-oblong, acuminate, petioled, downy on their under surface. The inflorescence is an axillary compound raceme, the flowers being white. The fruit is an indehiscent, woody, one-seeded nut, about the size of a large cherry.

The plant belongs to class *Decandria*, order *Monogynia*, in the Linnean arrangement.

Production of the balsam.—When the tree is six years old, longitudinal or somewhat oblique incisions are made in the bark of the stem, at the origin of the principal lower branches. A liquid exudes, which by exposure to the sun and air soon concretes, and the solid mass is then separated by means of a knife or chisel. Each tree yields about three pounds of benzoin annually, for the space of ten or twelve years. That which exudes during the first three years is white, or yellowish white, and is denominated *head benzoin*. The benzoin which subsequently flows is of a brownish colour, and is termed *belly benzoin*. After the tree is cut down the stem is split, and some benzoin scraped from the wood; but its colour is dark, and its quality bad, owing to the intermixture of parings of wood and other impurities; this sort is called *foot benzoin*. The relative values of head, belly, and foot benzoin, are as 105, 45, 18.

Benzoin is brought from the country in large cakes (called by the natives *tompongs*) covered with mats. In order to pack it in chests these cakes are softened by heat: the finer by exposure to the sun; the coarser by means of boiling water.

Physical properties and varieties.—Sometimes, though rarely, we meet with benzoin in distinct tears (*benzoinum in lachrymis*). Not long since some was brought to this country from Siam; it was sold at the rate of nine shillings per pound for the foreign market. The finest sample I have seen was brought me by a pupil from Bombay; it consists of irregular flattened pieces, some of which are angular, and the largest of them barely exceeding an inch in length. Externally these pieces are shiny, or dusty from their mutual friction, and are of an amber, or reddish-yellow colour; they are brittle, and may be easily rubbed to powder. Internally they are translucent or milky, and frequently striped; they have a pleasant odour, but little or no taste. This variety appears identical with the *true benzoin in tears*, which Savary tells us was brought in considerable quantity to Paris by the attendants of the Siamese ambassadors.

Sometimes we meet with benzoin in masses, made up of agglutinated tears (*white benzoin in masses*). More commonly the tears are connected together by a brown resiniform mass; so that when the lump is broken, the white tears look like so many embedded almonds; and hence this variety has been termed *amygdaloid benzoin*. The commonest kinds of benzoin consist almost wholly of this brown resiniform matter, with various impurities, but containing few or no tears; this is *common* or *brown benzoin*, or *benzoin in sorts*, of some writers.

Composition.—In 1811, Bucholz published an analysis of benzoin; in 1816, a second was made by John; and in 1823, a third by Stoltze. Here are the results:—

	<i>Bucholz.</i>	<i>John.</i>	<i>Stoltze.</i>		
			White.	Amygdaloid.	Brown.
Volatile oil (aroma <i>John</i>) .....	.....	.....	traces.	traces.	traces.
Benzoic acid	12·5	12·0	19·80	19·42	19·70
Resin { yellow, soluble in æther { brown, insoluble in do. }	{ 83·3	{ 84·5 }	79·83 0·25	27·10 50·53	8·80 69·73
Matter like balsam of Peru ..	1·7	0	0	0	0
Aromatic extractive	0·5	0·50	0	0·25	0·15
Woody matter and other impurities	2·0	2·00	0	2·60	1·45
Water and loss .....	.....	0·25	0·12	0·10	0·17
Salts (benzoates and phosphates) .....	.....	0·75	.....	.....	.....
	100·0	100·00	100·00	100·00	100·00

Dr. Kaiser, of Landshut, discovered nickel in benzoin; and Buchner has confirmed the discovery.

Of the constituents of benzoin, those which I think it necessary to examine separately are the oil, resin, and benzoic acid.

1. *Volatile oil of benzoin.*—Distilled with water benzoin does not yield any essential oil; but when exposed to heat without water, benzoic acid and an empyreumatic oil are volatilized. This oil may be deprived of its empyreuma by redistillation with water, and then smells agreeably of benzoin.

2. *Resin of benzoin.*—It is soluble in all proportions in alcohol. On the addition of water to the tincture, a milky liquid (absurdly called *virgin's milk*) is formed, owing to the precipitation of the resin in the form of a white powder, which may be obtained quite free from benzoic acid, and then constitutes the *magisterium benzoës* of some old writers.

The acids (acetic, hydrochloric, and sulphuric) also precipitate the alcoholic solution. Benzoin resin colours the chloride of iron green, but does not cause any precipitate. This property would lead to the suspicion of the presence of either gallic or tannic acid, but neither has been detected.

Stoltze makes two kinds of resin in benzoin: one of a *yellow* colour, and soluble in æther; the other *brown*, and insoluble in this liquid. Unverdorben, however, makes three varieties: one (*resina alpha*) is insoluble in carbonate of potash, but soluble in æther; a second (*resina beta*) is

insoluble in both carbonate of potash and æther; and the third (*resina gamma*) is feebly electro negative, soluble in carbonate of potash (forming a resinat of potash), and very slightly soluble in æther.

3. *Benzoic acid: Flowers of benjamin.*—This acid was described, in 1608, by Blaise de Vigenere: but it seems to have been known to Alexander Pedemontanus in 1560. It exists ready formed in certain vegetable substances (as the balsams), and is readily produced in some others by the action of exterior agents (as heat, air, acids, and alkalies). It is readily obtained from, and was formerly supposed to exist in, certain animal substances (as the urine of herbivorous animals), which are now known not to contain it, but yield it only by the decomposition of some of their proximate principles. Thus the benzoic acid procured from the urine of horses is not contained in that liquid, but is produced by the decomposition of hippuric acid.

The following is the method of manufacturing this acid upon a large scale:—“The better kind of benzoin is most economically employed: it may be put into an iron pot, set in brickwork over a proper fireplace; the sublimate is most conveniently received into a large wooden box, lined with paper, communicating by a conical iron or tin plate neck with the subliming pot. The first product may be sublimed a second time in the same apparatus; and by conducting the process rather rapidly, the acid condenses in beautiful prismatic crystals, somewhat elastic. If slowly sublimed, it is more powdery

By this process of sublimation, good benzoïn yields 10 to 12 *per cent.* of acid contaminated by empyreumatic oil, and which, when pressed between folds of blotting-paper, and again sublimed, is reduced to the proportion of 8 or 9 *per cent.* of the purified acid*." The simplest method of procuring it is by putting coarsely powdered benzoïn into an earthen pot, over which is placed a cone of brown paper, and applying a moderate heat: the acid sublimes into the cone, and there condenses. Some employ, as a substitute for the cone, a house, as it is termed, made of pasteboard and laths, and lined with loose sheets of blotting-paper, which are renewed every time of use.

Scheele's process consists in boiling benzoïn with lime, by which a soluble benzoate of lime is procured, from which the benzoic acid may be precipitated by hydrochloric acid.

As met with in the shops, benzoic acid occurs in the form of light feathery white crystals, having a sour warm taste, but no odour. It readily fuses and volatilizes, its vapour being exceedingly irritating to the air passages. It is combustible, burning with a bright yellow flame. It is very sparingly soluble in cold water, dissolves in about 25 parts of water, and is very soluble in alcohol.

Anhydrous benzoic acid consists of

14 atoms carbon	.....	$14 \times 6 = 84$
5 atoms hydrogen	.....	$= 5$
3 atoms oxygen	.....	$3 \times 8 = 24$

1 atom anhydrous benzoic acid	$= 113$
-------------------------------	-------	---------

Or, it may be regarded as composed of—

1 atom benzule	.....	$= 105$
1 atom oxygen	.....	$= 8$

1 atom anhydrous benzoic acid	$= 113$
-------------------------------	---------

The crystallized acid of the shops consist of—

1 atom anhydrous benzoic acid	..	113
1 atom water	.....	9

1 atom crystallized benzoic acid	122
----------------------------------	-----

Benzoic acid is readily distinguished from other acids by its light and feathery crystals, its fusibility, volatility, odour of its vapour, and by the characters of its soluble salts. Thus the benzoate of ammonia produces with the persalts of iron a pale red precipitate (the perbenzoate of iron), and with the nitrate of silver, acetate of lead, nitrate of mercury, and supernitrate of bismuth, white precipitates (benzoates of the respective metals).

* Brande, Manual of Chemistry.

The local action of benzoic acid on the body is that of an irritant: thus when swallowed it causes a sensation of acidity in the back part of the mouth and throat, and of heat in the stomach. Its vapour, when inhaled, is exceedingly irritating, and causes violent coughing. In regard to its remote effects, benzoic acid operates as a stimulant; more particularly, it is supposed, to the lungs.

Alone it is rarely employed in medicine. Formerly it was given, mixed with gum or sugar, in doses of five to fifteen or twenty grains, in chronic pulmonary affections. Its principal use now is as a constituent of the well-known *paregoric elixir* (the compound tincture of camphor of the Pharmacopœia).

Physiological effects of benzoïn.—Benzoïn acts like benzoic acid—that is, locally it is irritant, remotely stimulant, and expectorant. When taken internally, it is apt to disorder the stomach. It is more acrid and stimulant, and less tonic than myrrh, to which some pharmacologists have compared it. By some it is considered to act specifically on the sexual organs.

Uses.—It is principally employed in chronic bronchial affections, but it is not a remedy often resorted to even in these cases. Its stimulant properties render it improper in all acute inflammatory affections, and its acidity prevents its employment where there is much gastric irritation. It has also been used in some uterine affections, as chlorosis.

Administration.—Benzoïn may be administered in *substance* in doses of from ten grains to half a drachm. The *compound tincture of benzoïn* is a well-known preparation of this balsam. It consists of benzoïn, styrax, tolu, and aloes, dissolved in rectified spirit. It may be exhibited in doses of from half a drachm to two drachms, in chronic catarrhs. A very pleasant mode of exhibiting it is in the form of emulsion prepared with mucilage and sugar, or the yolk of egg. Compound tincture of benzoïn is occasionally applied to foul and indolent ulcers, to excite the vascular action, and to improve the quality of the secreted matter. It is a very improper, though a frequent application, to recent cuts, since it prevents union by adhesion (or, as it is commonly termed, union by the first intention): yet it is commonly sold in the shops under the name of *wound balsam*, or *balsam for cuts*: indeed it was formerly termed in the Pharmacopœia *balsamum traumaticum*. *Court*, or *black sticking plaster*, is prepared by brushing first a solution of isinglass, and afterwards a spirituous solution of benzoïn, over black sarcenet.

Benzoïn is largely employed in the cere-

monies of the Roman Catholic church. It evolves a most pleasant odour when heated, and on this account is usually one of the leading constituents of the *fumigating pastiles*, many formulæ for which will be found in Jourdan's *Pharmacopée Universelle*.

A favourite cosmetic with the ladies is *Virgin's milk*, which is prepared by mixing one drachm of the simple tincture of benzoin (prepared from one part benzoin, and four parts rectified spirit), with four ounces of water.

BALSAMACEÆ.

This family, established by Blume, under the name of *Balsamifluæ*, and adopted by Dr. Lindley, consists of a single genus (*Liquidambar*), two species of which I must briefly refer to.

Liquidambar styraciflua.

This a large and fine tree, a native of Mexico and of the United States, from New England to Louisiana. In the Linnean arrangement it belongs to class *Monœcia*, order *Polyandria*.

In Mexico and Louisiana there is obtained from the stem, by making incisions in it, a liquid resin called *liquidambar* or *copalm balsam*. Commerce presents this in two forms—one liquid and transparent, the other solid and opaque, or nearly so.

Liquid liquidambar, or *oil of liquidambar*, is a transparent liquid, having the consistence of thick oil, an amber yellow colour, a pleasant agreeable balsamic odour, and an aromatic, acrid bitter taste. This variety is apt to be confounded with liquid storax, but the odour will distinguish it. The other variety of *liquidambar* is called by Guibourt *soft* or *white liquidambar*, and is described in some works as *white balsam of Peru*. It is a soft solid, resembling in its consistence and general appearance very thick turpentine; it is nearly opaque; whitish externally; has a weaker but feebler odour than the liquid balsam, and a sweetish balsamic taste.

Bonastre analysed a very fluid sample of *liquidambar* (*copalm balsam*), recently received from America. He found its constituents to be as follows:—

Colourless volatile oil.....	7.0
Semi-concrete matter contained in the water distilled from the balsam, and separated by æther	11.1
Benzoic acid.....	1.0
Crystalline matter soluble in water and alcohol.....	5.3
Yellow colouring matter.....	2.05
Oleo-resin	49.0
Styracin.....	24.0
Loss	0.55
	<hr/> 100.00

Stryacin is a crystalline substance insoluble in water, and nearly so in cold alcohol, but more soluble in boiling water. It consists of—

Carbon	76.2728
Hydrogen	5.5032
Oxygen	18.2240
	<hr/> 100.000

Bonastre's analysis is interesting, since it shews that the recent balsam contains a considerable quantity of volatile oil, and very little benzoic acid; whereas old balsam contains little oil, but much balsam: hence, therefore, it would appear that the acid is formed in some way at the expense of the oil; and consequently it is possible that the same rule might hold good with respect to other balsams (*tolu*, *storax*, *benzoin*, &c.) in their recent and old states.

The effects, uses, and doses of *liquidambar* are similar to those of other balsamic substances. Thus it is stimulant, especially to the mucous membranes, and is used in chronic catarrhs, gonorrhœa, gleet, leucorrhœa, &c.,—the dose being from 10 to 20 grains.

Liquidambar Altingia.

This is the name given by Blume to a tree known in eastern countries by the name of *Rasamalla* or *Rosa mallos*, and which Noronha described under the name of *Altingia excelsa*.

This tree yields the liquid known in the shops as *liquid storax* (called by the Arabs and Turks *cotter mija*). The method of procuring it is described by Petiver in the Philosophical Transactions. *Rosa mallas*, says this writer, grows upon the island of Cobross, at the upper end of the Red Sea, near Cadess, which is three days' journey from Suez. The bark of the tree is removed annually, and is boiled in salt water until "it comes to a consistence like birdlime;" it is then separated, put in barrels (each containing 420 lbs.), and sent to Mocha by way of Judda. The best is that which is freest from clay and dirt. On referring to the books of a wholesale druggist, I find all the storax (liquid and solid) imported into this country during the last seven years came from Trieste.

Under the name of *liquid storax* I have met with two substances in English commerce. 1. A pellucid liquid, having the consistence and tenacity of Venice turpentine, intermixed with what appear to be particles of bran or sawdust, a brownish colour, and sweetish storax-like odour, different to that of soft *liquidambar*: it was sold to me as *balsam storax*, and was said to have been imported in jars, each containing 14

lbs., but I could not learn from whence it came. It agrees with the *storax liquida finissima* of Alston, and the *pure or fine liquid storax* of Hill. 2. The other kind is the *common liquid storax* of the shops, the *impure or coarse liquid storax* of Hill, and is the variety alluded to by Petiver; at least it is imported in casks holding about 4 cwt. each, and it has the consistence of bird-lime. It is opaque, of a grey colour, and an odour of storax, but frequently intermixed with that of naphtha, which has led me to suspect that this substance is used to adulterate it,—a circumstance the more probable since various writers tell us it is much adulterated.

No regular analysis of liquid storax has been published. The following substances, however, are contained in it:—

Volatile oil.
Benzoic acid.
Resin.
Matter soluble in boiling alcohol (wax?).
Fragments of bark and earthy matter.

The effects and uses of liquid storax are analogous to those of solid storax, and need not, therefore, be repeated.

CUCURBITACEÆ.

In this family I have to speak of two officinal plants, and shall commence with

Momordica Elaterium.

History.—This plant was employed in medicine by the ancient Greeks, Romans, and Arabians. Hippocrates, Theophrastus, and Dioscorides, call it *σίκος ἄγριος*, or the *wild cucumber*. Pliny terms it *cucumis sylvestris*; by some others it has been called *cucumis asinarius*, or *asses' cucumber*.

The authors just quoted were also acquainted with one or more preparations of the juice of the fruit, which were termed *ἐλατήριον* (from *ἐλαύνω*, to *impel* or *urge forward*), or *elaterium*; a term which was also employed to indicate any cathartic medicine.

Botany.—*Momordica Elaterium* is a native of the southern parts of Europe. The root is annual; the stem thick, round, rough, trailing, and branching, without cirrhi. The leaves are supported on long, round, bristly petioles: they are cordate, obtuse, somewhat lobed, crenato-dentate, and bristly; on the under side greyish and strongly reticulated. The flowers are axillary. The males form racemes composed of five or six flowers, each of which consists of a five-toothed adherent calyx, the teeth of which are lanceolate and acute,—a campanulate, five-cleft, yellow corolla, reticulated with green veins,—and three stamina, two of which bear doubly-

folded anthers, while the third has an anther singly folded. The female flowers have a calyx and a corolla similar to those of the males,—three sterile filaments,—an inferior one-celled (spuriously three-celled) ovary,—a simple style,—and three bifid stigmata. The fruit is a small, elliptical, pedunculate pepo, of a greyish-green colour, and covered with soft prickles. When ripe, it separates from its stalk, and expels, with considerable violence, its brown seeds, and a thin mucus through the aperture at the insertion of the stalk.

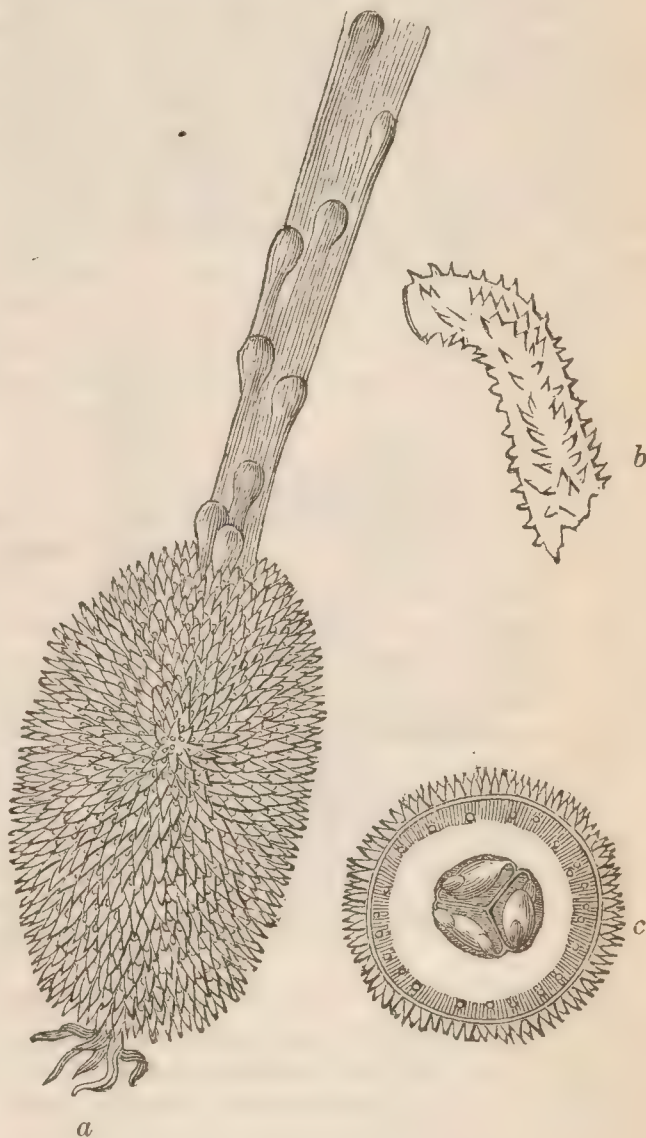


FIG. 188.—*Momordica Elaterium*.

a, Fruit of *Momordica Elaterium*, separating from the stalk *b*, and expelling its seeds.
c, Transverse section of the Fruit.

This circumstance has given rise to its name of *squirting cucumber*. Moreover, it has induced L. C. Richard to separate this plant from the genus *Momordica*, and to place it in *Ecbalium* (a word which I presume is derived from *ἐκβάλλω*, to *expel*) under the name of *E. officinale*. This suggestion of Richard has been followed in the "*Handbuch der medicinisch-pharmaceutischen Botanik*" of T. F. L. Nees von Esenbeck and Ebermaier.

The phenomenon of the expulsion of the seeds of this plant has acquired of late years increased interest, from the circumstance of Dutrochet having adduced it as one of the effects of *endosmosis*. It is well known that when two fluids of unequal density are separated from each other by membrane (animal or vegetable), a double permeation of fluids takes place,—that is, each fluid passes through the membrane, and mixes with the other fluid: the current in one direction is called *endosmosis*,—that in the opposite direction *exosmosis*. The instrument employed by Dutrochet in conducting his experiments he called an *endosmometer*: it consists of a bell-shaped glass vessel (a bottomless bottle, for example), closed at the lower end by bladder, at the neck by a cork, through which passes a straight tube; or we may have a curved tube issuing from the side of the neck (as in fig. 189).

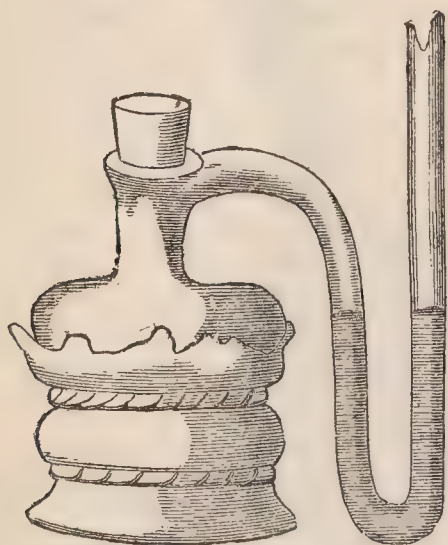


FIG. 189.—*Endosmometer*.

If syrup be put into the bell, and the bell then immersed in water, a portion of syrup will exude through the bladder, while a larger quantity of water will pass in; and if mercury be placed in the curved portion of the tube (as in fig. 189), the liquid metal is pushed up. If, on the other hand, the bell contain water, and be immersed in syrup, the stronger current is from within outwards. In other words, the stronger current is in general from the lighter towards the denser fluid. Hence we comprehend why cherries and plums shrivel when preserved in syrup, but remain plump in brandy: in the first place *exosmosis* preponderates because the syrup is denser than the juice of the fruit,—in the second, *endosmosis*, because the juice is denser than the brandy: the separating membrane is of course the skin or epicarp of the fruit.

Now to apply these facts to the phenomena of the *Elaterium* apple. In the cen-

tre of this fruit and surrounding the seeds is a very singular variety of organic matter, which appears like thick mucus. It is called by some botanists *placental matter*. (See fig. 188, c). More external to this, that is in the tissue of the pericarp, there is another organic liquid, whose density is less than that of the placental matter. Now these two fluids being separated from each other by membrane, are in the exact condition for the operation of *endosmosis*; consequently the central cell gradually becomes very much distended (at the expense of the liquid in the tissue of the pericarp), and ultimately gives way at the weakest point—namely, where the peduncle is articulated with the fruit, and the contents of the cell are expelled with great violence, from the sudden contraction of the distended tissues.

The Linneanists are not agreed as to the class and order of the *Momordica Elaterium*, as the following statements will prove. Linnæus and some of his followers placed it in class *Monœcia*, order *Syngenesia*: but the “casual and irregular connexion” of the anthers soon led some of his followers to abolish the order. Turton placed the genus in *Monœcia Triandria*; Sir J. E. Smith suggested that the “Gourd tribe” might be placed in *Monœcia Pentandria*, or perhaps better in *Monœcia Polyadelphia*; Persoon, Loudon, and most of the later Linneanists, put it in *Monœcia Monadelphia*; while Sprengel has referred it to *Monadelphia Triandria*.

Seat of the elaterium.—Some years since Dr. Clutterbuck ascertained that the active substance, *elaterium*, “is neither lodged in the roots, leaves, flowers, nor stalks, in any considerable quantity; nor is it to be found in the body of the fruit itself, or in the seeds contained within it; it was only in the juice around the seeds, therefore, that it could be looked for,” and here it was found.

The precise situation of it will be readily comprehended by inspecting a transverse section of the *elaterium* pepo (see fig. 188, c.) We observe that the external portion of the pericarp (namely, the epicarp) is furnished with rigid hairs; within the epicarp is a whitish sarcocarp, forming what Dr. Clutterbuck terms the body of the fruit. The centre of the fruit is divided into three cells, by projections of the three parietal placentæ to which the seeds are attached. Between these projections, and surrounding the seeds, is the *pulp* (the juice around the seeds of Dr. Clutterbuck); it is paler than the sarcocarp, and is composed of a very lax tissue, which, as the fruit matures, takes on, says Aug. St. Hilaire, a gelatinous con-

sistence, becomes disorganized, and melts into water.

“The centre of the fruit of *Momordica Elaterium*,” says Dutrochet, “contains a very singular organic substance, and which has no resemblance to any other vegetable tissue. It seems to be a green very thick mucus. Viewed by the microscope, it appears to consist of an immense quantity of very small globules, agglomerated sometimes confusedly, sometimes so as to form irregular striæ. This substance is penetrated by a whitish liquid, by a sort of emulsion, which is so much the more dense as we observe it at an epoch nearer maturity. This aqueous liquid escapes immediately we open the green fruit. By the microscope we see some almost imperceptible globules which swim in this liquid. At the epoch of maturity this whitish liquid is much more abundant, and at the same time much denser; the globules which it holds in suspension are become much larger.”

Manufacture of elaterium.—The following directions are given by Dr. Clutterbuck for obtaining elaterium:—“The cucumbers should be gathered when nearly as ripe as possible, and without violence that might endanger their bursting. They should then be wetted by the affusion of cold water, that less of the juice when they are cut may adhere to the external surface. In this state they should be cut through longitudinally, and the juice allowed to strain through a fine sieve, placed in a large earthenware vessel. The seeds and surrounding pulp should be scooped out upon the sieve, and washed with repeated affusions of cold water, by which they will be freed from all adhering

juice. Something will be saved also by afterwards rinsing the split cucumbers themselves in cold water, from which a portion of elaterium may be collected.

“After standing a few hours a sediment is formed, from which the clear liquor is to be poured off; it is then to be thinly spread on fine linen, and exposed to the air to dry: a gentle warmth may be employed without injury; but the access of sunshine destroys the fine green colour which the substance otherwise acquires.”

The directions given in the London Pharmacopœia are much less explicit than those just quoted: moreover, the cucumbers are ordered to be “very gently expressed;” but, as Dr. Clutterbuck has justly observed, “pressure is not at all necessary in order to obtain the elaterium, and can only serve to deteriorate its quality, and render the dose uncertain.”

Physical properties and varieties.—I have met with two principal kinds of elaterium in the market: one manufactured in England (mostly at Mitcham); the other imported from Malta.

1. *English elaterium.*—It is a light pulverent inflammable substance, usually met with in thin flakes, or flat cakes, or fragments, frequently bearing the impression of the muslin upon which it was dried. It should be of a very pale green colour, approaching to yellowish white; its taste is acrid and bitterish.

Dr. Clutterbuck states, that of the best specimens from Apothecaries’ Hall, spirit dissolves more than half; while of inferior sorts a fourth part only is dissolved. Mr. Barry states the solubility of elaterium manufactured by Dr. Clutterbuck’s process to be as follows:—

Ten Grains of Elaterium, manufactured according to Dr. Clutterbuck’s process.		Dissolved in Spirit, of Specific Gravity 0·809.
By Messrs. Allen	{ 1st sample	5·5 grains.
	{ 2d sample	6·2 grains.
	{ 3d sample	6·4 grains.
At Apothecaries’ Hall		6 grains.

• 2. *Malta elaterium.*—It is in much larger flakes than the kind before mentioned, frequently with some adherent paper on which it has been dried: its colour is much paler, sometimes with hardly a trace of green. It is more pulverent, and softer, and occasionally is rather chalky to the touch. Dr. Thomson states it seldom acts well under doses of a grain.

Chemistry.—Braconnot has analysed the

expressed juice of the plant, but I pass over his statements, since they do not bear immediately on our subject—elaterium. Some years since Pfaff stated his opinion that the active principle of elaterium was a vegetable alkali similar to veratria. Dr. Paris analysed 10 grains of elaterium, and stated the following were the constituents:—

<i>Elatin</i>	}	1·2
Bitter matter		
Extractive		2·6
Fecula		2·8
Gluten		0·5
Woody matter.....		2·5
Water		0·4
		10·0

The quantity analysed, however, was too small to permit much reliance to be placed on the results obtained. Moreover, it has since been shown that the supposed new principle to which Dr. Paris gave the name of elatine, is in fact a compound of at least two principles—a crystalline matter (now termed *elaterine*), and a green resin.

In April 1831, Dr. Morries published an account of *elaterine*; and in the following month appeared a paper, by Mr. Hennell, of Apothecaries' Hall, London, stating that in 100 parts of elaterium he found—

Crystallizable substance (<i>elaterine</i>)	44
Green resin	17
Starch	6
Woody fibre	27
Saline matters	7
101	

The excess he attributed to moisture in the elaterium and green resin.

Active principle of elaterium.—Dr. Clutterbuck showed, in 1819, that the active principle of elaterium was insoluble in water, but soluble in alcohol; for he found a watery infusion of eight grains had no

effect, whereas the alcoholic extract, in the dose of 1-16th of a grain, produced considerable purging and often vomiting; and when the dose was increased to $\frac{1}{4}$ of a grain the effect was more considerable, and often took place in a very few minutes. The action of these liquids on elaterium led Dr. Clutterbuck to believe that the active principle was of a resinous nature.

The alcoholic tincture of elaterium contains two proximate principles—namely, *elaterine*, and a green resin, in one of which, therefore, the purgative power resides. Now Dr. Morries asserts that the elaterine is the active principle; whereas Mr. Hennell says it is the green resin. Let us, then, examine both these principles.

Elaterine (the *Momordicine* of some writers) was procured by Dr. Morries thus: the alcoholic tincture of elaterium was evaporated to the consistence of thin oil, and then thrown into boiling distilled water; a white crystalline precipitate was formed, which increased as the liquor cools. This precipitate was afterwards purified by a second solution in alcohol and subsequent precipitation by water. Mr. Hennell's process was different. He separated the resin from the crystalline matter of the alcoholic extract of elaterium by æther, which took up the resin and left the elaterium; the latter was then purified by solution in hot alcohol and subsequent crystallization.

The quantity of *elaterine* in elaterium varies considerably, as the following statements show:—

In 100 parts of Elaterium	Quantity of Elaterine.
Prepared according to the directions of the } London College (<i>Hennell</i>)	40
Best British elaterium (<i>Morries</i>)	26
Worst ditto (<i>Morries</i>).....	15
French elaterium (<i>Morries</i>)	5 or 6

Prepared by either process, elaterine possesses the following properties:—It is crystalline, and has a silky appearance; the crystals, viewed by a magnifying glass, are observed to be rhombic prisms, with striated sides; it is very bitter, but odourless; is neither acid nor alkaline, and is insoluble in water, but soluble in hot alcohol. Mr. Hennell says it is only very slightly soluble in æther; whereas Dr. Morries states it to be readily soluble in both æther and fixed oil. It is fusible, according to Mr. Hennell, at 350° F. The latter

chemist also tells us that it is composed of—

Carbon	36·9
Hydrogen	23·9
Oxygen	39·2
100·0	

Dr. Morries says, that at a high temperature it is dissipated in thick, white, pungent vapour, having an ammoniacal odour. Hence probably a small portion of nitrogen is present.

Mr. Hennell does not appear to have tried the effects of elaterine. The late Dr. Duncan, of Edinburgh, ascertained that in doses of 1-12th or 1-16th of a grain it had all the effects of a dose of elaterium. "A tenth of a grain," says Dr. Christison, "as I have myself witnessed, will sometimes cause purging in man; and a fifth of a grain, in two doses, administered at an interval of twenty-four hours to a rabbit, killed it in seventeen hours after the second dose."

The *green resin* before alluded to is soluble in alcohol and æther, but is insoluble in water. Mr. Hennell states, that in doses of less than a third of a grain it acted powerfully as a purgative. Probably, however, this arose from the presence of some elaterine: indeed Mr. Hennell admits that 21 grains of resin contained 4 grains of elaterine.

Physiological effects of elaterium: (a.) On vegetables.—Macaire found a branch of the *Momordica Elaterium* was speedily destroyed by emersing it in a solution of the extract of this plant.

(b.) On animals generally.—The only experiments made with elaterium, that I am acquainted with, are those of Orfila on dogs. They are three in number, and prove that this substance is a powerful local irritant, producing death even when it has been applied to the cellular tissue of the thigh, in consequence, as he supposes, of the nervous system being sympathetically affected. Moreover he concludes, from his observations, that elaterium exerts a special action on the rectum.

(c.) On man.—The acridity of elaterium in its local operation is well shown by various facts. Pliny truly observes that the juice of the elaterium apple is dangerous when applied to the eye; and Dr. Clutterbuck mentions that some of it "getting accidentally into the eye in one instance, it occasioned severe pain and inflammation, with an erysipelatous swelling of the eyelids that continued till the following day." We have a further proof of its irritant properties in the inflammation and ulceration of the fingers of those employed in its preparation.

When swallowed, therefore, it irritates the gastro-intestinal membrane, and occasions vomiting and violent purging: hence it is called a *drastic purgative*. Fine elaterium, in the dose of 1-8th of a grain, seldom fails to purge violently, and sometimes to vomit. This was long since noticed by Dr. Clutterbuck, and I can verify his statement from repeated observations. Even 1-16th of a grain will generally excite considerable purging.

The elaterium of the shops, however, is rarely so active as this, and I have known two grains given with no more

effect than the pure elaterium would excite in the dose of 1-8th of a grain. Elaterium powerfully excites the secreting and exhaling vessels of the alimentary canal, and thereby occasions very watery stools: hence the term *hydragogue* applied to it. In some dropsical cases I have known a single dose discharge several pints of fluid by the bowels. The gripings and the increased number of evacuations prove that the irritation is not confined to the mucous coat, but that the muscular coat also becomes affected. Under the influence of a full dose the pulse is excited, the tongue becomes dry and somewhat furred, and great thirst is produced.

Elaterium has been supposed to have a specific influence over the uterus. Thus Dioscorides tells us (and the same is related by some later writers) that elaterium provokes the menses, and when given to pregnant women is apt to produce the death of the foetus. I am not aware, however, of its possessing more influence in this respect than what is common to all drastic purgatives, especially those acting powerfully on the large intestines.

Does elaterium become absorbed? We have no stronger evidence to offer in favour of the affirmative of this question than that mentioned by Hippocrates (Επιδημιον, lib. 6, sect. 5), more than 2000 years ago; namely, that the milk of women and goats who have eaten elaterium or the wild cucumber, possesses purgative properties.

Uses.—The principal use of elaterium is to excite watery evacuations in dropsy, by which a two-fold effect is to be hoped for,—namely, absorption of the effused fluid, and the stoppage of any further effusion in consequence of the metastasis from the seat of effusion to that of the intestinal membrane. I believe elaterium to be far superior to, because it is more certain in its operation, than other hydragogue purgatives. One or two doses of it should be given every other day, for a week or ten days. If continued longer than this, it might perhaps bring on an inflammatory condition of the bowels. Dr. Darwall mentions a case in which hypercatharsis and maniacal delirium were produced by the prolonged use of elaterium: the delirium, however, went off in a few hours. Some tonic (usually gentian) is commonly conjoined with the elaterium. Thus a pill composed of elaterium and extract of gentian is frequently employed; or we may exhibit infusion of gentian on alternate days with the elaterium. Where there is a febrile condition of system, and also where there is an irritable or inflammatory condition of the alimentary canal, elaterium is inadmissible. It is best adapted for cold phlegmatic constitutions.

Elaterium is sometimes employed as a

counter-irritant, or revulsive, in affections of the cerebro spinal system, such as apoplexy (or a tendency to it, manifested by sleepiness, stupor, or giddiness), mania, &c.

In some cases of very obstinate constipation it may also be employed; but care should be taken to ascertain that the constipation does not depend on any mechanical impediment (such as hernia or intussusception) to the passage of the fæces.

Administration.—The dose of good elaterium is from one-sixteenth to one-half of a grain. I hear and read of practitioners giving this substance to the extent of one or two grains; but this can only be from the bad quality of the drug. I have repeatedly employed, and seen others exhibit elaterium, and have always observed that a quarter of a grain of good elaterium acted very powerfully; and I confess I should not venture to exhibit a grain of the same preparation. It is usually given in a pilular form; but some have employed an alcoholic tincture.

Antidotes.—In the event of a case of poisoning by elaterium, the remedies would be demulcent drinks and clysters, opium, the warm bath, and fomentations to the abdomen; stimulants (such as ammonia and brandy) if the circulation should fail; and bloodletting to subdue the inflammatory symptoms, should the state of the general system not contra-indicate it.

ON THE

DISSOLUTION OF GRAVEL AND STONE IN THE BLADDER.

BY A. CHEVALLIER,

Chemist; Member of the Royal Academy of Medicine, of the Council of Salubrity, &c. &c.

Translated from the French,

BY EDWIN LEE, M.R.C.S. &c.

Author of "An Account of the Watering Places of the Continent;" "Observations on Continental Medical Institutions and Practice," &c.

[Continued from page 435.]

V. On the Action of Lime and Lime-water on Calculi.

LIME-WATER was employed as a solvent of calculi by Dr. Whytt, Professor of Medicine to the University of Edinburgh, who conceived the idea of using this remedy, after the examination of the composition and effects of Miss Stephens' remedy, and published a work on the use of lime-water, indi-

cating two modes for its administration—viz. by drinking, and by injecting it into the bladder. The examination of the first of these methods shewed that the lime-water was considerably weakened on arriving in the bladder, which was not the case when it was injected by the urethra. But Dr. Whytt had some difficulty in injecting the fluid—at least so Butler states in his memoir*, in which he gives the description of an apparatus for injecting the bladder, and the details of his different experiments.

The employment of lime-water had its partisans and its opponents. Navier, a physician at Chalons, was opposed to its use; he supposed that the stones in the bladders of French patients were of a different nature to those in the bladders of English patients; and founded his opinion on the difference of the drinks, as beer was principally drank in England, whilst in France wine was the most common beverage.

Among the defenders of lime-water may be mentioned Hales, who having introduced alkalies and acids into the bladder of living animals, which caused them no inconvenience, inferred that these substances might be injected into the human bladder, and effect the dissolution of calculi.

Langrish shewed that lithontriptics may be introduced into the bladder, by injecting twice in the same day into the bladders of dogs, lime-water, with the addition of fifteen or twenty drops of a solution of caustic potass. The animals subjected to these experiments suffered no pain from these injections, nor did any inconvenience ensue.

Cambell introduced a similar injection into the bladder of a child three years of age: the injection was retained during four hours. Butler administered to stone patients lime-water as a drink, as an enema, and as an injection. Yet, notwithstanding that facts have been brought forward which demonstrate its utility in cases of vesical calculi, the use of lime-water has been in great measure abandoned.

We find in the memoir of Luisius some experiments made with lime-water taken internally, with the intention of arresting the formation of uric acid.

Two ounces of lime-water given to a

* A Method of Curing the Stone by Injections. Sept. 1755.

person in the morning fasting, with a cup of milk and water, produced no effect. A pint of lime-water, taken in four doses, at intervals of an hour between each, caused five hours afterwards a slight deposition of phosphate. The urine passed in the third hour was not alkaline; the effects were evidenced only at the highest degree in the fifth hour. These effects were not so marked as if a small quantity of soda had been taken, notwithstanding the insolubility of the compounds which one would imagine to be formed by the union of the lime with the acids which exist in the urine.

The disagreeable taste of lime-water, the quantity required to be taken, on account of the small portion of lime which it retains in solution, and the uncertainty of its effects when its employment has been restricted to some rare cases, where it has appeared to suit the stomach, are against its general use. The effect of carbonate of lime on the urine is much less sensible than that of lime water; sometimes no effect is produced, but in large doses it causes a slight deposit of phosphate.

When these remedies are taken some hours after a repast, their action on the urine is only retarded.

M. Segalas, in his *Essay on Gravel and Stone*, says that lime-water may be employed in cases of gravel, and adds, that one of the members of the Académie de Médecine cured, by the sole use of this water, a lady who laboured under gravel during thirty years.

M. Langier, in the first volume of the *Mémoires de l'Académie*, in speaking of a liquid capable of dissolving lithic acid calculi, says—

“The dissolvent to which I allude is lime-water. I do not pretend to claim the action of this liquid upon uric acid as a discovery; I am aware that the celebrated Scheele remarked this property. I know also that some practitioners, especially Whytt, have recommended it as a lithontriptic. I believe, however, that no one has made chemical experiments with it, some of the results of which I will state to the Académie.

Six grains of crystallized uric acid, heated in an ounce of lime water, diluted with an ounce of distilled water, were immediately dissolved at a temperature of 26° Reaumur.

“The same quantity of acid was dissolved by the same quantity of mixture cold, in half an hour, by simple agitation. This experiment has constantly succeeded; but I remarked that, between the evening and the following day, the greatest part of the urate of lime was deposited in the form of white flakes, extremely light, and easily separated by means of water. A fragment of a stone of uric acid, of the size of a small nut, was placed in a vessel containing an ounce and a half of lime-water, and the same quantity of distilled water. At the expiration of twelve hours the fluid had lost its flavour; a great number of flakes of urate of lime covered the stone, which had changed its colour. The water having been poured off, and the flakes removed, the fresh diluted lime-water which I added had each time a more marked action on the stone, which is to be ascribed to the fluid penetrating more intimately into its substance, and the diminution of its force of cohesion.

“At the expiration of a month, although I had only changed the water every three or four days, the stone was reduced to a fifth or a sixth of its former size, in which state it remained, because I ceased to renew the water. This experiment should be repeated with more exactness, to determine in a precise manner the time, and the quantity of lime-water necessary to *pulverize*, or rather to reduce, a calculus of uric acid into flakes of urate of lime, without the assistance of heat. It seems to me that, after this simple experiment, the fact can be no longer doubted.

“If diluted lime-water united the double advantage of being without action on the bladder, and of not causing irritation of this viscus, we would not hesitate to prefer it to solutions of potass and soda, for injections, even if its action were slower. The injection is now the more feasible, as, by the ingenious apparatus improved by M. Jules Cloquet, it is easy to introduce into the bladder, emptied of urine, a considerable quantity of fluid. This mode of treatment would be likely to succeed especially in cases of gravel, where the uric acid exists almost in a state of purity, and in the form of very small portions, which have not yet the consistence which this acid is susceptible of acquiring, when it constitutes urinary calculi properly so called.”

The experiments made by M. Langier, the success obtained from lime-water in cases of gravel composed of uric acid, and of calculi of the same acid, make us regret that the trials made on other calculi by this skilful chemist have not been published; the results would, doubtless, have exhibited the mode of action of lime-water on phosphatic calculi*.

VI. *On the Action of Miss Stephens' Remedy on Calculi.*

This remedy consisted of, first, a powder prepared with calcined egg-shells and snails; 2. of a tisane, prepared with burdock leaves, camomile, and parsley, and with a preparation termed the soap-ball, which contained Spanish soap, white honey, and wild cresses, calcined and powdered; 3. of pills composed of medicinal soap, honey, and a charcoal powder, formed by the combustion, in closed vessels, of the seeds of the wild carrot, burdock seeds, the fruit of the ash tree, of the wild rose, and of the hawthorn.

Miss Stephens at first only used calcined egg-shells, to which she subsequently added snails, which gave an additional proportion of carbonate of lime. She afterwards added a small quantity of subcarbonate of potass; and lastly, by means of the charcoal powder, she administered a fresh quantity of alkaline salts, having potass for their base.

In 1737 this remedy began to make some noise, and afterwards acquired so much reputation, that in 1739 parliament, fearing that its composition might never be made public, appointed a committee composed of twenty two members to examine it, desiring to give Miss Stephens proofs of its generosity if it were demonstrated that the remedy possessed the efficacy which was attributed to it.

A favourable report having been made by the committee, a reward of five thousand pounds was granted to Miss Stephens; the composition of the preparation was published in the newspapers; patients made trial of the remedy, and public opinion was much divided respecting it: some denied its properties on the grounds that there did

not exist any substance capable of dissolving stones in the bladder; others, wiser and more prudent, waited before giving an opinion; others again, saw only in this preparation a strange mixture of substances which could have no efficacy, and some even attributed to the remedy the formation of the cretaceous and calculous matter observed in the urine, or opposed the remedy without being acquainted with it. The Académie des Sciences, which has always taken a lively interest in all that might extend the limits of science or be useful to humanity, commissioned Morand, one of its members, who had communicated the results of the first ten cases published in London, to make experiments on the subject. These experiments occupied fifteen months, and the results were published in the Memoirs of the Académie. In his report, Morand makes known the following facts—he divided the patients whom he treated by the remedy into four classes, and found,

1st.—That the patients forming the first class, composed of five persons, who employed the remedy for other diseases of the kidneys and bladder than the stone, did not all experience the same phenomena; in fact, the remedies appeared to be serviceable to those who complained of uneasiness (*embarras*) in the kidneys, and of nephritic colic: they increased the pains of those who passed purulent urine, and who consequently had ulcers in the urinary passages.

2dly.—That the patients of the second class who took the remedy for gravel, also presented different results; two considered themselves completely cured, four were relieved, two derived no benefit, four passed pretty large stones.

3dly.—That the patients of the third class who had symptoms of stone, and who had not been sounded, presented the following results:—one patient, aged 55 years, who had taken the powder and the drink during three months, did not feel any of the symptoms he had previously experienced, three other patients were relieved, two voided entire stones, and one voided portions of stone of a scaly form.

4thly.—The fourth class was formed of patients of different ages, from three to seventy-nine years, and in all these individuals the presence of stones in the bladder had been ascertained by sounding. Twelve had been sounded by Morand, and ten others had been

* M. Langier was carried off by the epidemic which raged in Paris in 1832, which prevented the publication of his memoir.

sounded by surgeons of known reputation. Of four of these patients who took the remedies for a short time, one was relieved, two others were neither better nor worse; the fourth suffering greatly from the pains, caused himself to be cut for the stone, which was of a soft nature.

Of eleven adults, three derived no advantage, four were greatly relieved, four considered themselves completely cured. On four others the operation was performed, and no sign of dissolution was observed on the stones extracted*.

In general the administration of Miss Stephens's remedy increased the pains during the first few days, but many patients speedily acquired the power of retaining their urine, which is usually a good sign, as the remedy acts so much the more efficaciously when the urine which is impregnated with it, remains a longer time in the bladder.

Morand says, that the urine of those who used the remedy had an ammoniacal odour,—that when it was first administered, patients generally voided mucosities and a white sediment, which, on being put aside and dried, was changed into a yellowish powder, which, placed on hot coals, emitted a fœtid animal odour; that many patients voided this sediment only, whilst others have passed small crystallized scales, resembling isinglass,—others, stony shells, convex on one side, and concave on the other. Other patients passed fragments of stones, which could not be broken when pressed between the fingers, and in which several laminæ were observable. Some voided small stones entire, like those which come away after attacks of nephritic colic. Others again, who voided habitually a small round and red sand, did not void any whilst using the remedy. Very few patients passed blood in their urine, even though it had been previously bloody.

Morand says also, that these remedies neither disordered the appetite, the digestion, nor any of the principal functions. He observes that they generally occasion constipation, but that it has been ascertained that the powders are astringent, while the drink is of a laxative nature, and, consequently, the one

may be corrected by the other, by giving more or less of either.

Morand made other experiments on the action of Miss Stephens's remedy, and observed,

1. That a piece of a calculus, put into a solution of soap, about the same temperature as the urine, and left there during a month, had lost thirty-one grains of its weight on ninety-three which it weighed before the experiment, and besides, that on being touched, the outer shell, and part of its second layer, were left between the finger and thumb.

2. That a piece of calculus placed in the urine of a man who took Stephens's remedy (both the drink and the powder), had lost three grains on 170 which it weighed, by exposure during a month to the action of this urine, warmed to about its natural heat in the bladder.

3. That a piece of calculus, placed in the same conditions, had lost in a month eight grains on 68.

4. Lastly, that a calculus, placed in the urine of a healthy man during a month, and in the same conditions as the others, had acquired an additional grain in weight.

Morand sought to explain, by the examination of Stephens's remedies, the facts which he observed; and to prove the action of these remedies in softening the stone, he quotes the case of a Mr. Carteret, who, having been relieved by the medicines, discontinued them before being perfectly cured, and who died two years afterwards. On examining the body, two hard stones, joined together, were found in the bladder. Each stone was of the size of a small chesnut, and each contained another stone, which was heard to rattle on shaking them. These nuclei were so soft as to be easily broken by pressure between the fingers, and the stones which formed them appeared to be rotten and eaten away, these being the terms used by the surgeon who performed the autopsy. Morand considered that the nuclei which were isolated were those of stones which had experienced the effect of the remedies, and that the outer part of the calculi was formed subsequent to the discontinuance of them. Morand insists on the property of the remedy to prevent the formation of stone, and observes that the operation of lithotomy performed on children is not a preservative against relapses, as some of these patients have

* It would have been highly interesting at the time of these operations to have ascertained the nature of the stones, but chemistry was not in such an advanced state as at present: Scheele had not then published his work on the analysis of urinary calculi.

been cut as many as seven times; and he asks whether the remedy should not be given to persons who have been operated on, and in whom the disposition to form stone exists? He says, with reason, that he does not believe that these remedies act on mulberry calculi, nor on those which are black or have an iron colour.

If Miss Stephens's remedy did not succeed in a great many cases, the causes of failure could not be ascertained; in order to do this the calculi removed should have been submitted to an analysis, but at that period the analysis of calculi was impossible, because the nature of these concretions was not known. In fact, Morand, speaking of mulberry calculi, says, that he considers them "to be a particular compound of urine and blood, whence results a concretion much harder than that of white stones."

However, Miss Stephens's remedy produced beneficial results, as the publications of Drs. Hartley and Deschery demonstrate. Among the cases adduced to prove its successful employment, may be quoted that of Dr. Kirkpatrick, who has described the state of suffering in which he was when he heard of the remedy, and studied its effects day by day from the time he began to take it till his complete cure. It appears that he passed from the bladder a thousand and thirty-six shells of stone, being as he thought parts of five stones which were partly dissolved or decomposed in the bladder, and the nuclei of which were voided at different periods: besides these shells the urine often contained a great quantity of sand, and a whitish matter, which settled at the bottom of the vase, and which by evaporation hardened into a stony substance; which naturally leads to the belief that this sediment was no other than the substance of the stones which was dissolved.

Geoffroi also, member of the Académie Royale des Sciences, relates some facts in favour of Stephens's remedy. He mentions the case of a patient, æt. 55, who had all the symptoms of stone, with bloody urine, which were removed by the use of the remedy for three months; a considerable quantity of white sand and several fragments of stone having been voided with the urine during that time. He also states the case of a child in whom a stone was

detected on sounding, and which was cured by taking the remedy during a month, as also two other cases in which the patients voided, one of them, small stones, very hard and full of holes; the other, urine loaded with a white sediment, and a small gravelly body of the size of a coriander seed covered with the same sediment.

In the experiments which Geoffroi made on the dissolvent property of urine on calculi, he observed—

1st. That a vesical calculus weighing two ounces, three drachms, five and a half grains, placed in a vessel in which was poured daily the urine of a patient who took the remedy, which urine contained sediment and gravel, acquired an increase of weight of six and a half grains.

2dly. That the same stone placed in the urine of the same patient, when it did not yield any sediment, had, at the expiration of ten days, lost thirty-five grains and a half. This stone seemed as if scratched in some parts, and had small holes, by which it appeared that the urine had begun to act on its interior. In the *Memoirs of the Académie des Sciences* is found the case of M. Bertheau, in whose bladder a stone was detected on sounding, and who, after taking Stephens's remedy, voided mucosities, small calculous shells, and small stones, having the shape of an olive kernel. At the end of eighteen months he ceased to take the remedy, and after two years all the symptoms indicative of the existence of stone had disappeared: he took long walks, and enjoyed good health, with the exception of occasional attacks of gout and erysipelas; at a subsequent period, however, he experienced pains in the bladder, and died about twelve years after, when a stone was found in his bladder, covered with a mucilaginous coating; it was two inches long, eighteen lines wide, and thirteen lines thick, and weighed three ounces. It may be questioned whether this stone had not been affected by the remedy, or whether it was formed after the others had been voided.

Another case is mentioned, of a patient who was relieved so as to be able to walk and ride on horseback, but who, being attacked by fresh pains, was cut, and a stone weighing an ounce, two drachms, one scruple, was extracted.

Geoffroi has concluded from the facts which he observed, that the remedy may relieve for a certain time some patients by cleansing the bladder, and that it prevents at least the enlargement of the stone, while it is used. The judgment given by Geoffroi is severe, for it does not explain the expulsion of the fragments of stone, and of the nuclei, as well as the complete disappearance of stones after the employment of the remedy.

Miss Stephens's remedy may be disagreeable to patients who take it for a long period, but it has not been prejudicial to the animal functions, nor has it been attended with any pernicious effects upon the bladder. This remedy has, notwithstanding, as Morand foretold, had the lot of all new remedies: every one is at first anxious to use them, and they are afterwards laid aside and forgotten*.

[To be continued.]

DR. GRAVES THE DISCOVERER OF THE REFLEX FUNCTION OF THE NERVES.

To the Editor of the Medical Gazette.

SIR,

FINDING that the doctrine of the reflex action of the nervous system, as a cause of disease, is at present exciting considerable attention in Germany, where it has been enriched by the labours of the celebrated Müller, I think it right again to assert my claim to priority of discovery on this subject. Dr. Marshall Hall has been very successfully employed in developing the important results which are deducible from this doctrine; and no doubt he believed that he was the first who entered upon this fertile field of inquiry. That he

* In one patient who was considered cured by the treatment, a stone was found sacculated in the bladder after death; and this case being adduced as a proof of their inability to act upon stones in the bladder, tended materially to diminish the reputation of Stephens's remedies. Although the question could not be judged fairly by the results of any single case, yet even in this instance all the symptoms had disappeared; and it may be questioned whether the remedies had not some share in the cessation.

The stone of this patient (David Hartley) is in the possession of Mr. Soden, of Bath, by whom it was recently shewn me. It is of the size of a largish orange, and is apparently composed of urate of ammonia.—*Note of Translator.*

was not the first, he will, I trust, acknowledge, when he reads the following extract from a lecture of mine delivered in 1834, and published in 1835. In this lecture I refer to others which had been previously published, I believe in 1833. The extract I now send is from the *American Journal of Medical Sciences*, August 1836, in which my lecture has been reprinted. You will observe, sir, that I have not only anticipated Dr. Marshall Hall in his doctrine, but even in its name; for I have throughout used the expression *reflex action*.—I am, sir,

Your obedient servant,

ROBERT J. GRAVES.

9, Harcourt-street, Dublin,
June 17, 1837.

By paraplegia is meant, as you are aware, that species of paralysis in which the lower extremities are affected,—a paralysis frequently embracing loss of motion and loss of sensation in the lower extremities, accompanied in many instances with derangement of the motor power of the bladder and rectum. Now I wish you clearly to understand that it is not my intention to describe the symptoms, or discuss the causes, of those species of paraplegia which are well ascertained, and of which you will find satisfactory descriptions in your books: under this head may be classed all those cases which are produced by disease of the spinal marrow, its membranes, the vertebræ, or their appendages, their ligaments, and diseases directly affecting the great nerves which supply the lower extremities. All these matters have been sufficiently studied, and require no additional observations from me; my object is to elucidate some of the obscurer varieties of paraplegia.

Before I commenced my investigations on the subject, pathologists, in endeavouring to ascertain the causes of paralysis, sought for the sources of the disease almost solely in the centres of the nervous system. They looked for the causes of paralysis in the brain or spinal cord, where they supposed it originated either in organic or functional derangement of these important organs. In the lectures to which I have already referred, I shewed that this mode of accounting for all forms of paralysis, by referring them to original disease of the nervous centres, was

in many instances incorrect, and proved, I think to the satisfaction of the class and those who read the lectures, that a most important and influential cause of paralysis had been hitherto nearly overlooked—a cause which, commencing its operation on the extremities, and not on the centres of the nervous system, might, by a reflex action, produce very remarkable effects on distant parts. I brought forward on that occasion many arguments, facts, and cases, to prove the possibility of such an occurrence—to show that it frequently happens that impressions made on the extremities of the nerves will generate a morbid action in them—that this morbid action will be conveyed along their branches and trunks to the spinal cord or brain—and that, continuing its propagation, it may, by a retrograde course, be carried thence along the nerves to distant organs, and in this way give rise to disease in parts originally intact and healthy. I brought forward several instances to prove that when a certain portion of the extreme branches of the nervous tree has suffered any injury, the lesion is not confined merely to the part injured, but in many instances is propagated back towards the nervous centres, and that in this way not only the nervous filaments of the injured part may be affected, but also the main trunk of the nerve and other branches; or that the lesion may reach the brain or spinal cord, and thus produce still more extensive effects on the system. What I endeavoured to impress upon the class at that time was, that pain, numbness, spasm, and loss of the power of muscular motion, may be produced by causes acting on the extremities of the nerves, and that such affections commencing in the extremities of the nerves may be propagated towards their centres, so as to be finally confounded with diseases originating in the centres themselves. For a detailed account of my views on this subject I beg leave to refer to the published lectures; at present I shall content myself with recapitulating a few of the facts on which these views were grounded.

If you place your hand in snow or ice-cold water, you will find that it is not merely the parts subjected to the influence of cold that become numb, and that the diminution of power is not entirely limited to the muscles concerned in the peculiar motions of the fingers, but extends also to those of the fore-

arm, by which the principal motions of the hand are performed. Here the impression of the cold is found to affect not only the parts immediately exposed to it, but also parts that are quite removed from its influence, and warmly covered. We see that not only the muscles attached to the fingers, but also those of the fore-arm, undergo from this cause a temporary paralysis. Now, if a cause of a trifling nature, and acting only for a time, can, when applied to a part, produce loss of power in another and more central part, we may infer that the same cause acting permanently might produce permanent paralysis of the latter. We can therefore conceive how in this case the agency of cold might travel upwards and reach the muscles of the arm also, and thus we should have a change, commencing in the tips of the fingers, propagated to parts at a considerable distance from the situation of the original lesion. Again, we find that an injury affecting one branch of a nerve will be propagated by a retrograde action so as to affect another and distinct branch; as was exemplified in a case mentioned in my former lectures on paralysis. A young lady, having wounded the inside of her ring finger with a blunt needle, observed that she had, in consequence of the injury, a considerable degree of numbness, not only in the wounded finger, but also in the little finger next to it. Here we find that an impression made on the nerve of one finger not only affects that finger, but also travels backwards so as to operate on the branch given off by the ulnar nerve to supply the little finger, *and given off, observe, above the place of the wound*, so that the phenomena were identical with those which would arise from an injury inflicted on the branch which supplied both fingers. Within this last month, I have had an opportunity of witnessing a very striking fact of this nature. A young gentleman, distinguished for the extent of his classical and mathematical acquirements, and who had just succeeded in obtaining the senior wranglership, swallowed a small but angular piece of chicken-bone. It lodged low down in the œsophagus, and was not pushed, by means of a probang, into the stomach until after the lapse of more than an hour. Considerable inflammation of the pharynx, œsophagus, and surrounding tissues, was the conse-

quence; on the third day of his illness he got a violent, long-continued, and ague-like rigor, which terminated in a profuse perspiration, and ushered in a well-marked inflammation of the neck of the bladder. In the next place, we find that impressions affecting the frontal branches of the fifth nerve may, by a reflex action, operate on the retina so as to cause blindness. Here the morbid action travels from the circumference towards the centre, and is again reflected towards the circumference so as to affect a separate and distinct part. Of this I lately saw a curious and instructive example. A medical student, travelling through Wales on the outside of the mail, was exposed for many hours to a keen north-easterly wind blowing directly in his face. When he arrived at the end of his journey he found that his vision was impaired, and that every thing seemed as if he was looking through a gauze veil. There was no headache, no symptom of indigestion, to account for this evidently slight degree of amaurosis, and yet he was recommended to use cupping to the nape of the neck, and strong purgatives. When he consulted me, which he did in the course of a few days afterwards, I at once saw that there was something unusual in the case, and after a careful examination, I at length elicited from him the fact of his having been exposed to the influence of the cold wind. It was now apparent that the retina suffered in consequence of an impression made on the facial branches of the fifth pair. The cure was effected, not by a treatment directed to relieve cerebral congestion, but by stimulation of the skin of the face, forehead, temples, &c.

It is, however, unnecessary to multiply examples to prove the truth of the proposition, that disease may commence in one portion of the nervous extremities, and be propagated towards the centre, and hence, by a reflex action, to other and distant parts. Bearing this in mind, we can explain why it is that disease commencing in one part of the system may produce morbid action in another and distinct part, and it certainly appears strange, that with so many striking examples before them, pathologists should have so long overlooked this cause, when seeking to explain the nature of many forms of paralysis. If certain irritations of the nervous extremities in one part of the body are capable of giv-

ing rise to a derangement in the whole system of voluntary muscles; if a local affection may become the cause of exalting and rendering irregular the functions of every muscle in the body; then, surely, it is not difficult to conceive that a cause, local as the former, and tending not to exalt but to depress the motor function of the muscles, may likewise affect not merely the nerves and muscles of the part, but also those of the whole body or of distant organs, giving rise to paralysis. Now pathologists have long recognized the fact, that general muscular excitement and spasm may arise from the operation of a local irritation. A man gets a contused wound on his thumb or one of his fingers, and some superficial nerves are injured. In the course of a few days he begins to feel a degree of stiffness about the lower jaw and muscles of the neck, accompanied by a sense of constriction about the diaphragm. This increases gradually, all the voluntary muscles are thrown into a state of fixed spasm, and he gets tetanus. Here a few trifling branches of the digital nerves are injured, the morbid action is conveyed from them along the nerves of the arm to the spinal cord and brain, and is thence, by a reflex action, propagated all over the body. A wound of the finger causes a morbid action in its nerves, and it has been acknowledged by pathologists that this, by acting on the brain and spinal cord, may give rise to a general morbid action of the muscular system. This being the case, there is nothing improbable in supposing that a cause affecting any portion of the branches of the nervous tree, and which produces effects of a paralytic nature, may likewise re-act backwards towards the nervous centres, and thence, by a reflex progress, may extend its influence to distant parts of the circumference.

To give another instance, how often do we see irritation, commencing in the intestinal mucous membrane, propagated backwards towards the brain? Take the familiar example of intestinal worms. A child labours under worms;—here the irritation of the digestive mucous surface, whether it be produced by the worms, or by the indigestion which accompanies them, is propagated from the stomach and bowels to the brain, and thence reflected to the voluntary muscles, causing general convulsions.

Dr. William Stokes details the following case in his lectures. "A young

woman was admitted into one of the surgical wards of the Meath Hospital, for some injury of a trivial nature. While in the hospital she got feverish symptoms, which were treated with purgatives consisting of calomel, jalap, and the *black bottle*—a remedy which deserves the name of *coffin bottle* perhaps better than the pectoral mixture so liberally dealt out in our dispensaries as a cure for all cases of pulmonary disease. She was violently purged, the symptoms of fever subsided, and she was discharged. A few days afterwards her mother applied to have her re-admitted, and she was brought in again, and placed in one of the medical wards. Her state on admission was as follows:—She had fever, pain in the head, violent contractions in the fingers, and alternate contraction and extension of the wrist and fore-arm. These muscular spasms were so great, that the strongest man could scarcely control the motions of the left fore-arm. In addition to these symptoms, she had slight thirst, some diarrhoea, but no abdominal tenderness. On this occasion a double plan of treatment was pursued, the therapeutic means being directed to the head, in consequence of the marked symptoms of local disease of the brain,—and to the belly, from the circumstance of abdominal derangement observed in this and her former illness. She died shortly afterwards, with violent spasms of the head and fore-arm; and as she had presented all the ordinary symptoms of a local inflammation of the opposite side of the brain, we naturally looked there first for the seat of disease. After a careful examination, however, no perceptible trace of disease could be found in the substance of the brain, which appeared all throughout remarkably healthy. She had all the symptoms which, according to Serres and Foville, would indicate disease of the optic thalamus or posterior lobe of the opposite side, yet we could not find any lesion whatever of its substance, after the most careful examination. But on opening the abdomen we found evident marks of disease; *the lower third of the ileum, for the length of six or eight inches, was one unbroken sheet of recent ulcerations.* This case, gentlemen, you will perceive just now, bears very strongly on the subject of paraplegia arising from enteritis.

Again, how often do we see convulsions brought on in the same way by

cutaneous irritation? A child gets an attack of fever, accompanied by general irritability and restlessness. During the course of the disease the lungs become affected, and the medical attendant applies a large blister, which is left on for several hours. Next day the symptoms of nervous irritation become more violent; the child is perfectly restless, or if it doses for a moment, awakes screaming, and is finally attacked with general convulsions. Many other examples could be brought to support this view of the question, and prove that morbidly increased action of the whole muscular system may be excited by a cause acting merely on some insulated portion of the nervous extremities.

I think, therefore, that I am borne out by analogies strikingly exhibited by numberless examples, in asserting that the circumference of the nervous system has been too much neglected by pathologists, in their explanations of the nature and causes of paralytic affections. I could give many instances of pains commencing in particular parts of the body, and travelling back towards the spine, so as to give rise to an affection of that organ, which has been too generally looked upon as the result of idiopathic disease. How often does this happen in hysteria? How often does it happen that the organ principally engaged in hysterical cases becomes, during the attacks, acutely painful; and that, as the disease proceeds, the pain travels back towards the spine, until at length the spinal cord itself becomes affected, and we find acute pain and tenderness over some portion of its track? I am fully persuaded that many modern authors who have ascribed the phenomena of hysteria and other affections to spinal irritation, have been too hasty and indiscriminate in their explanations. In the majority of cases you will find hysteric patients complain at first, not of pain in any part of the spinal cord, but in the right side in the situation of the liver, in the region of the heart or stomach, or in the head or the pelvic region. At this period there is seldom any tenderness over the spinal cord; but, as the disease goes on, the irritation which existed in some of these situations to which I have referred, is extended to the spine, and pain and tenderness are now felt over some of the spinous processes of the vertebræ. When this has taken place, then the spinal irritation

thus produced becomes itself a new cause of disease, from which, as a centre, the morbid influence is propagated to other organs. The profession owe much to Teale, Griffin, and other writers, who have pointed out the importance of attending to this spinal tenderness in cases of hysteria, &c. Still, however, like all those who have been employed in investigating a new subject, they have perhaps generalized too hastily, and have, in many cases, regarded this spinal tenderness as a cause, where it should have been merely considered as a consequence.

OVARIAN DROPSY,

SUCCESSFULLY TREATED BY PASSING A
LIGATURE THROUGH THE SAC.

To the Editor of the Medical Gazette.

SIR,

THE result of any particular or unusual plan of treatment which exposes the object of it to danger, ought to be placed on record, whether successful or otherwise, that some criterion may be afforded whereby to judge of the propriety of its adoption: I therefore send the following case for insertion in your journal.

February 8, 1837.—Ann Brown, a servant, unmarried, first perceived a swelling in the abdomen about two years ago, which has gone on increasing until now she has the appearance of a woman in the last month of pregnancy. She thinks her complaint arose from cold contracted after washing, when she was seized with shivering, succeeded by febrile symptoms. She cannot tell at which side the swelling commenced. Had been under treatment for dropsy a considerable time, but without benefit.

Complains of tenderness in epigastrium, extending into the right hypochondrium; increased on pressure. Bowels constipated, and evacuations scanty; urine diminished, and high-coloured; pulse oppressed, skin dry, never perspiring; menses irregular, appetite impaired, but flesh good.

At this time the abdomen was so tense as to render the diagnosis difficult. She was confined to bed, bled from the arm, had leeches applied to the epigastrium, and purgatives administered;

small doses of calomel, with diuretics; and was put upon rice diet, which improved the general health materially, promoting all the secretions; and in a few days the size of the abdomen was so much diminished as to lead herself and her friends to believe that the swelling was disappearing*.

The integuments of the abdomen were now so much slackened that the nature of the tumor could be more precisely determined; and as they were moveable over every part of it with which they came in contact, and the girl began to complain of difficulty of breathing at night, and numbness of the right leg, I was led to propose the operation first performed by Dr. Nathan Smith, and twice† since in England, with success.

On the 23d of March, at 4 o'clock in the afternoon, the operation was commenced, in presence of Messrs. Banner and Wainright, surgeons to the Northern Hospital, and Mr. Lockart. An incision was made an inch and a half in length, commencing about an inch below the umbilicus. On entering the peritoneum, a few ounces of dark-coloured fluid escaped; the finger was then introduced, when a few slight thready adhesions, easily separable, were felt on the right side, the left being perfectly free. A trocar was now introduced, when about three or four quarts of dark-green grumous fluid escaped. A hook, and afterwards a ligature, was passed through the sac, to keep it in contact with the parietes of the abdomen. The incision was enlarged to about three inches, in consequence of the thickness of the sac—at least a quarter of an inch. In attempting to withdraw it from the abdomen it appeared to adhere posteriorly; the finger was carried upwards, where a portion of intestine (I think the arch of the colon) was discovered firmly adherent right across the body of the sac. The wound was immediately closed with sutures and court-plaster, and the ligature allowed to remain in the lower part of it.

7 P.M.—Complains of tenderness of the abdomen, which feels hot. Pulse hurried. V. S. When about six ounces had been taken she became faint, and somewhat re-

* May not this account for the evidently mistaken notion that diuretics have sometimes the effect of reducing ovarian dropsy?

† Lancet, Jan. 21st. From the manner in which these cases are related, one would suppose that Mr. Jefferson was the originator of the operation.

lieved. A bladder of cold water to be kept applied to the abdomen.

R Pulv. Opii, Calomel, aa. gr. xij.
Pulv. Ipecac. gr. iij. Ext. Hyosciam.
gr. viii. M. et divide in Pil. vj. Capt.
i, sextis horis.

24th, 7 A.M.—Had a restless night, slept none; vomited several times; thirst urgent; considerable pain and heat of abdomen, not much fulness; pulse 120, small, but incompressible; has had evacuation of urine. V. S. ad $\frac{3}{4}$ xij., which produced faintness and relieved the pain. The bladder applied to the abdomen to be filled with snow.

11 A.M.—Slept a little; feels somewhat easier.

4 P.M.—Pain and tenderness increased; vomiting; bowels not moved; pulse 150. V.S. $\frac{3}{4}$ ij., followed by alarming prostration.

R Sulph. Magnesiae, $\frac{3}{4}$ ij.; Tinct. Digitalis, $\frac{3}{4}$ ij.; Tinct. Opii, $\frac{3}{4}$ i.; Aq. $\frac{3}{4}$ vij.; Capt. $\frac{3}{4}$ i. tertia qq. hora.

10 P.M.—Pain and tenderness abated; no vomiting; slept a little; very faint; thirst still continues.

25th, 10 P.M.—Had an easy night; pain not severe; pulse hurried; no evacuations, no urine.

4 P.M.—Countenance flushed; bowels moved several times; urine free; very little pain; abdomen more swelled; vomited once.

10 P.M.—Countenance still flushed; slept two hours; much refreshed; in good spirits; says she feels very comfortable; pulse 124; no sickness; bowels purged, and secretion of urine copious.

Bran poultices to be applied instead of the snow, which she says is now uncomfortably cold.

R Pulv. Opii, gr. iij.; Pil. Hydrarg. Ext. Hyosciam. aa. grs. vj. in Pil. vj. dividend; Capt. i. 4ta qq. hora.

26th, 9 A.M.—Purged very freely during the night; slept at intervals about four hours; pulse 132; complains of pain in left hypochondrium; vomited once.

Omit. Mist. Appl. Hirud. xij.

3 P.M.—Pain relieved; pulse 134.

9 P.M.—Feels rather hot; pulse 136, firmer; pain more severe. V.S. ad $\frac{3}{4}$ ij., when she became extremely weak.

R Tinct. Opii, $\frac{3}{4}$ ij.; T. Digitalis, $\frac{3}{4}$ ij.; T. Scillae, $\frac{3}{4}$ ss.; Liq. Ammon. Acetat. $\frac{3}{4}$ vij. M. Capt. $\frac{3}{4}$ ss. tertia quaque hora.

27th, 10 A.M.—Had a good night; slept several hours; says she feels weak; countenance blanched; thirst moderate; pulse 124, weak.

2 P.M.—Pulse 126, improved in strength; scarcely any tenderness.

9 P.M.—Slept two hours; feels very comfortable; has taken a cupful of arrow-root and milk, which she relishes; pulse 126.

R Opii, grs. v.; Ammon. Carb. $\frac{3}{4}$ i.; Hyosciam. grs. x.; Ext. Gentian, grs. xij. M. et div. in pil. xx. Capt. i. tertia quaque hora.

28th, 10 A.M.—Slept at intervals during the night; felt thirsty; vomited this morning; pulse 118, fuller and softer; no evacuation from bowels; discharge of watery fluid from the wound.

Omit the pills.

R Mag. Sulph. $\frac{3}{4}$ i.; Tinct. Digitalis, $\frac{3}{4}$ ij.; Mist. Camphoræ, $\frac{3}{4}$ vij.; Capt. $\frac{3}{4}$ i. 4ta quaque hora.

7 P.M.—Has been very easy all day; slept a little; bowels purged; thirst moderate; has not vomited; taken arrow-root and milk several times.

R Pulv. Opii, Pil. Hydrarg. aa. gr. vj.; Saponis, grs. iv. M. et divide in pil. ix. Capt. i. statim, et ii. hora somni.

29th, 10 A.M.—Did not sleep till eight this morning, since which has been in a sound sleep; does not feel so thirsty as during the night; urine about a pint, high coloured; pulse 120, soft and compressible; discharge of healthy pus from the wound; abdomen soft and not tender.

To have broth.

8 P.M.—Pulse 112; vomited once; bowels twice moved; urine free. Broth did not agree.

30th, 10 A.M.—Did not sleep during the night; pulse 114, weak; tongue brownish, and furred; urine free; bowels purged.

Omit. Medicament. Habt. $\frac{3}{4}$ i. Vini Rubri, quarta quaque hora.

9 P.M.—Feels very weak; has not vomited, though felt sick; pulse 110, soft, and larger; no pain of abdomen.

Rep. Pil. Opii, Ammon. &c.

31st, 10 A.M.—Had a restless night; was seized with pain in the right hypochondrium at one o'clock; pulse 110, soft and weak.

9 P.M.—Pulse 118; no pain; feels weak.

Increase the quantity of wine.

April 1st, 10 A.M.—Did not rest well; pulse 120; no vomiting; one evacuation, rather confined.

9 P.M.—Slept a little during the day; escape of very offensive gas from the wound; pulse 128; not so thirsty; bowels not moved.

R Tart. Potass. et Sodæ, 3ij. nocte manequæ.

Cont. Pilulæ.

2d, 10 A.M.—Had a good night; pulse 120, not so quick, and larger in volume; bowels gently purged; urine free; discharge from abdomen not so offensive.

9 P.M.—Was very much disturbed to-day with visitors and noise in the house, which she says has thrown her into a fever. Pulse 144, very irritable.

3d.—Feels much better this morning; pulse 120; slept well for three or four hours; bowels open; urine free.

6 P.M.—Seized with stitch in left hypochondrium, which catches the breath, and extends into left shoulder; tenderness on pressure; pulse 134, incompressible.

Omit the wine.

V.S. ad 3ij., which relieved the pain.

R Tinct. Digitalis, 3ij.; T. Opii, 3ij.; Magnes. Sulph. 3i.; Mist. Camphoræ, 3vij. M. Capt. 3ij. statim, et 3i. tertia quaque hora.

4th.—Feels somewhat easier this morning; had but little sleep; very weak; pulse 126, rather firm; abdomen still tender on pressure; discharge of pus from the wound.

Food, arrow-root and sago.

9 P.M.—Tenderness diminished; bowels twice opened; urine free; thirst; pulse 124, soft and compressible; tongue excited.

Omit the mixture.

Rep. Pil. Opii c. Ammon. 4ta quaque hora.

5th, 10 A.M.—Had a restless night; colicky pains in left hypochondrium; bowels open; urine free; vomited every time she took the pills; pulse 120, soft, and increased in volume; discharge of pus continues.

6 P.M.—Pulse 116, improved; still troubled with colicky pains; perspired freely.

R Tinct. Opii, 3ij.; T. Digitalis, T. Colchici, aa 3iss.; Mist. Camph. 3ij. M. Capt. 3ij. 4ta quaque hora.

6th, 10 A.M.—Had a good night; pulse 108; discharge of healthy pus from the wound.

7th, 10 A.M.—Had a restless night; complains very much of the colicky pains; pulse 112, large, quick, and soft; tongue coated with a brownish fur; abdomen distended. Made a small opening into the sac, on which a large quantity of greenish watery fluid was discharged.

3i. wine every four hours.

8 P.M.—Had several short sleeps; still complains of the pain, though not so

severe. Out of bed to have it made, when a considerable quantity of fluid was discharged from the abdomen, described as dark, thick, and very offensive.

R Quinin. grs. xij.; Opii, grs. vj.; Hyosciam. grs. xij. div. in pil. xij. Capt. i. 4ta quaque hora.

8th, 10 A.M.—Had a good night; pulse 110, soft, and tolerably full; bowels moved, described as natural; urine free; perspired a little; considerable discharge of dark brown offensive fluid from the wound, which, had it not been that the alvine evacuations were natural, I should at once have concluded was from the bowels; still complains of the pain. Had some porridge and milk at her own desire.

8 P.M.—Had a refreshing sleep; pulse 114; large quantity of the same kind of fluid discharged from the wound; has had two evacuations from the bowels; takes the porridge and milk with relish.

9th.—Slept several hours during the night; perspired freely; tongue improved; appetite good.

10th.—Much the same; great discharge from wound.

11th.—Had a good night; no evacuations from the bowels since the 9th.

R Magnes. Sulph. 3ij.; Tinct. Opii, 3j.; Liq. Antimon. Tartar. 3ss.; Mist. Camph. 3ij.; Aquæ, 3iv. M. capt. Cochl. i. Mag. 2da qq. horâ, donec alvus respondeat.

9 P.M.—Bowels twice moved; appetite good.

Omit the mixture.

12th.—Appetite good; discharge diminished and less offensive; pulse 112.

13th.—Discharge of pus from the wound.

To have ale.

14th.—Improving; pulse 110; bowels confined.

Repeat the mixture.

15th.—Discharge of pus continues; wound granulating; bowels moved; feels stronger.

18th.—Discharge of pus increased.

19th.—Discharge diminished; pulse 100, good; was up a little last night; improving rapidly.

21st.—Pulse 96; perspires very much during the night.

R Quinin. Sulph. 3j.; Tinct. Opii, 3ij.; Magnes. Sulph. 3j.; Mist. Camph. 3vij. M. capt. Cochl. i. Mag. sextis horis.

22d.—A portion of the sac sloughed off.

23d.—The slough has entirely separated. From this date the wound was daily stuffed with lint, granulated kindly, and is now nearly closed. The girl's

health has improved rapidly ; she is now going about, and will very soon be able to resume her duties. The sac is entirely obliterated, and the abdomen perfectly flaccid. Menstruation occurred on the 12th instant, and continued four days.

It was my intention, in the event of adhesions, to have removed as much of the sac as could be brought out of the wound ; but from its thickness and fleshy appearance hæmorrhage was likely to ensue, which might not so easily have been controlled ; and I am now satisfied that the adoption of such a plan (from the violent suppurative action it must occasion), would almost entirely preclude the possibility of recovery.

The operation is objected to on two grounds : that adhesions exist in almost every instance ; and the great danger of penetrating the abdominal cavity. As to the former, on what foundation does it depend ? The result of post-mortem examinations. Let it be remembered that these are for the most part cases where the individuals have sunk from the effects of the disease, and in whom it has existed for a considerable time. This objection, therefore, cannot hold good in an early stage of the disease. As to exposing the abdominal cavity, there is reason to believe the danger is not so great as was formerly supposed : when combated by treatment sufficiently active, taking care that the smallness of the pulse, and apparent debility, be not allowed to regulate the treatment. When pain, heat, thirst, and frequency of pulse, are present, the lancet is indispensably necessary. It is no easy matter, however, to determine when it is, and when it is not, required ; the greater error will be its non-employment.

Should another opportunity occur to me of attempting the operation, the plan I should feel inclined to adopt would be as follows :—To make an incision an inch and a half in length ; if adhesions existed, to pass a single thread through the sac, including about three-quarters of an inch of its substance (it is yet a question with me whether it might not be advisable not otherwise to puncture the sac, but to leave the case to nature) ; and bring out the ligature at the lower part of the wound.

Mrs. Rook, whose case of rupture of

the uterus was related in No. 430 of the GAZETTE, has not menstruated since.

I am, sir,
Your obedient servant,
J. S. CURRIE.

Warren-street, Liverpool,
May 26, 1837.

BITE OF THE ADDER.

To the Editor of the Medical Gazette.

SIR,

I BEG to transmit you the accompanying extract of a letter from my friend Mr. Charles Butler, of Romford, and would request its insertion, in the hopes that it may induce some of your medical readers, who have witnessed the dreadful effects arising from the poison of the serpents of India and Africa, to favour the profession with the results of their experience.

On June 10, at half-past twelve at night, I was called to attend James Hudson, a fishmonger of this town, who, having been exhibiting his prowess in playing with snakes, and putting their heads into his own mouth, at last, though warned that it was an adder (*Coluber Berus*), and aware of its poisonous powers, selected one which proved a Tartar, and bit him under the tongue, which swelled so rapidly as to threaten him with speedy suffocation. The throat and chest were much tumefied, and both œsophagus and trachea greatly affected ; and during two hours the patient laboured under symptoms resembling those of croup and hydrophobia.

My treatment consisted in giving drachm doses of spiritus ammoniæ aromaticus, frequently repeated, alternated with olive oil given by the dessert spoonful, and followed by two ounces of the solutio magnesiæ sulphatis. I dipped large towels in cold water, and surrounded his trunk with them, constantly renewing their application. In about half an hour he felt relieved, and continued to improve. I rubbed the acetum cantharidis on the body, from the chin to the navel, and subsequently applied a large blister, which relieved the pain in swallowing. Notwithstanding the very formidable nature of

the symptoms at first, at four A.M. I considered all danger past; and though the tongue, which at first occupied all the interior of the mouth and fauces, and even projected considerably beyond them, still remains swollen, he is well enough to day (June 13) to be able to leave his house.

In this case the rapidity with which the violent symptoms came on may be attributed to the copious supply of vessels and nerves to the part bitten; and it is perhaps interesting, as so few cases of glossitis, either symptomatic or idiopathic, occur, and still fewer are relieved so rapidly, or by general treatment alone.—I remain, sir,

Your obedient servant,

GURNEY TURNER.

General Dispensary, Aldersgate-street,
June 14, 1837.

SOLID NITRAS ARGENTI IN GONORRHŒA.

To the Editor of the Medical Gazette.

SIR,

DR. HANNAY not having noticed Mr. Smith's letter against the treatment of gonorrhœa in the female by the solid nitras argenti, I beg to send you a few observations on that gentleman's communication, as it was chiefly through my solicitation that Dr. Hannay brought the subject before the public. In justice both to Dr. Hannay and the readers of the MEDICAL GAZETTE, I earnestly request that you will favour me by inserting the following in your valuable journal.—I am, sir,

Your obedient servant,

JOSEPH BELL.

Barrhead, June 13, 1837.

Mr. Smith deems the practice in question "cruel." In support of this surmise, he states that the "Lock Hospital is always full when Dr. Cumin has charge of it; but, on the other hand, does not average above four-fifths full when under the charge of Dr. Hannay."

I freely admit that the hospital was fuller, in the year 1836, under Dr. Cumin than under Dr. Hannay; but the manner in which this fact is stated

by Mr. Smith is calculated to deceive the readers of the MEDICAL GAZETTE; they might be induced to think that Dr. Cumin had a fifth more patients under his charge than Dr. Hannay, whilst the reverse of this is actually the case. The following statement, made from the journal of the Lock Hospital, will, however, set this matter in its true light:—

Number of Patients in the Hospital during Dr. Cumin's six months' attendance, commencing 1st Jan., 1836, ending 1st July, 1836.

Number of patients remaining in the hospital on 1st January . . .	24
Number of ditto admitted from 1st of January to 1st July . . .	135

Total number of ditto under Dr. C.'s charge . . .	159
Of these there remained in the hospital on 1st July . . .	25

Number of patients dismissed under Dr. C.	134
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Number of patients in the Hospital during Dr. Hannay's six months' attendance, commencing 1st July, 1836, and ending 1st January, 1837.

Number of patients remaining in the hospital on 1st July . . .	25
Number of ditto admitted from 1st July 1836, to 1st January 1837	130

Total number of ditto under Dr. H.'s charge	155
Of these there remained in the hospital on 1st January, 1837 . . .	15

Number of patients dismissed during Dr. H.'s attendance . . .	140
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I find from the journal that the average number of patients remaining nightly in the house for the year 1836 was 25 and a fraction. During the first six months, when Dr. Cumin had charge of the establishment, the average number was 28 and a fraction, whilst it was only 22 and a fraction during the six months of Dr. Hannay's attendance.

Hence we perceive, that although it is quite true Dr. Hannay never had so many patients in the hospital at once as Dr. C., yet he had as many minus as five in the course of the six months

of his attendance; and further, he had six dismissals more than Dr. C.; consequently Mr. Smith's objection that the hospital is only four-fifths full under Dr. H., is a very strong argument in favour of his practice. It clearly proves, even according to Mr. S.'s own showing, that Dr. Hannay's treatment is much more speedy and successful than that of his able colleague. It likewise shows that one-fifth of the expense of the institution is saved during the six months of Dr. Hannay's attendance*; so that on investigation Mr. Smith's statement proves but a left-handed compliment to Dr. Cumin. It is scarcely credible how any one desirous of puffing Dr. C. at the expense of Dr. H. should have so far lost his judgment as to omit inquiring if in the six months Dr. H. had not as many patients as Dr. C. Now on examination the numbers are found to be nearly equal. It has, indeed, been wisely said — "*Impedit præjudicium animum, ne possit cernere verum.*"

Mr. Smith next "*deems*" the practice inefficient: he founds this supposition on five cases in which he states the discharge returned after it had been reported "cured" in the journal by Dr. Hannay. Let us now examine these cases.

CASE I. E. J. (page 365).—I have in vain searched the journal for a report of the relapse in this case; no notice of such an event can be found. According to Mr. Smith's own report, the patient continued free from the gonorrhœal discharge until she was dismissed. It surpasses my comprehension to conceive how Mr. S. had the temerity to adduce this case as an instance of the inefficiency of the nitrate, when in his own hand writing he has left recorded in the journal of the hospital the most incontestible evidence of the permanency of the cure effected by the remedy in question.

* I by no means intend to depreciate Dr. Cumin's treatment. I have every reason to believe that no person, however distinguished in the profession, appropriates the remedies commonly used in gonorrhœa with better success than Dr. C. I firmly contend, however, that the nitras argenti, as applied by Dr. H., is by far more speedy and effectual than any mode of treatment hitherto employed. Mr. Smith's statement that the house is *always full* under Dr. C. is not true, as the hospital, when full, will contain about 35 patients. Now we have seen, according to the journal, that the average number in the house nightly was only 28 and a fraction; consequently it could not be always full.

"Perhaps, enchanted with the love of fame,
He sought the jewel in his neighbour's shame."

CASE II. E. M. (page 370).—Mr. Smith states in this case, that shortly after the application of the nitrate of silver the patient had an abortion. I am utterly astonished how any person could sit down and pen a deliberate statement of such a nature as the above: there is not the slightest notice taken in the journal of an abortion having occurred. Even if such an event had taken place, it was most unjust to charge it as a consequence of nitras argenti,—because I find from the journal that the nitrate WAS NEVER APPLIED TO THE VAGINA, AS THE WOMAN HAD NO GONORRHŒAL DISCHARGE. She had some ulcers on the vulva, to which the nitrate was slightly applied. Dr. Hannay's prescription stands in the journal as follows:—*Admov. Nitr. Argent. ad ulcer. nymphæ.* This is a matter of by far too serious a nature to admit of trifling,—a direct charge of producing abortion is brought against the treatment of Dr. H. without any foundation whatever. The reckless conduct of Mr. Smith in this case is entitled to the most severe condemnation.

CASE III. A. C. (page 372).—There was no relapse of the gonorrhœa in this case; a slight discharge did certainly exist, but it came from an abscess within the right labium, to which the patient kept a compress and bandage applied whilst under the care of Dr. Hannay. Mr. Smith could not fail to know that such was the fact, if he had read the case, as the source of the discharge is distinctly mentioned in the journal by Dr. H.

CASE IV. M. A. C. (page 369).—According to Mr. Smith's report, the discharge is stated to have returned, but he has not condescended to inform us of its nature. From the many irrefragable proofs which we have had previously of his want of candour, I am inclined to consider that the discharge had no gonorrhœal character whatever.

CASE V. J. M'C. (page 285).—In this case I have not had an opportunity of examining the journal for 1837. All I can say respecting it is, that the girl had extensive ulceration within the vagina. It is more than probable that the discharge came from this source.

Mr. Smith charges the nitras argenti with producing in one case (Betty

Kelly, page 341) double inguinal rupture. "Well this beats Banagher," as an Irishman would say. I applied the nitrate myself, and the patient remained above ten minutes afterwards in the surgery without evincing the slightest painful sensation. Still further, she was *labouring under the hernia before the nitrate was applied*. On the very day of her admission, when interrogated respecting the duration of the disease in question, she answered, in the presence of two gentlemen (Mr. G. Sutherland and Mr. J. S. Thomson), that it had existed for such a long time that she could not recollect exactly when it first appeared. Here, then, we have another specimen of the accuracy of Mr. Smith—another proof of the impartial and careful manner in which he collected "the materials of his paper on the subject of gonorrhœa."

As regards the nitras argenti producing suppression of the catamenia, Mr. Smith only exhibits his ignorance of the *modus operandi* of emmenagogues. I could adduce from the journals of the Lock Hospital innumerable cases in which the catamenia had been suppressed for months, but at the first monthly period after the application of the nitrate to the vagina, the accustomed flux appeared. I could bring forward Mr. Smith's own handwriting as an evidence that such was the fact, in more cases than one. From the preceding analysis of the cases adduced by Mr. Smith, we perceive that the objections which he urges against the nitras argenti in gonorrhœa have not the slightest foundation, except in his own imagination, shrouded by the dense fascia of inexperience. In fact he is quite incompetent to judge of the merits of the remedy in question, as he has neither applied it himself nor seen it employed: his knowledge of it must, therefore, be very limited indeed.

With respect to Dr. Hannay's paper being a reply to Mr. Smith's essay, I beg to assure him that, so far from this being the case, Dr. Hannay was totally ignorant of the existence of such a person as Mr. Smith when he (Dr. H.) sent his contribution to the MEDICAL GAZETTE.

I consider it quite unnecessary to occupy the valuable pages of the MEDICAL GAZETTE with comment on Mr. Smith's conduct in this affair. The mere recital

of the above facts is more than adequate to dissipate the misrepresentations by which he has attempted to bring into disrepute the treatment of gonorrhœa in the female by the solid nitras argenti.

REMARKS ON PHTHISIS.

To the Editor of the Medical Gazette.

————— "Natura beatiss
Omnibus esse dedit, si quis cognoverit uti."

SIR,

IN the present advanced state of medical science, it is surprising any doubts should exist as to the actual seat and primary nature of phthisis pulmonalis, a disease apparently so well investigated, and which most professional men consider themselves qualified to treat, from its frequency of occurrence, although very few in the vast number, literally speaking, have adequately reflected concerning its origin, or would attempt an explanation relative to its mysterious onset. This lamentable fact is every day proved by the infinite variety of contradictory means unsparingly recommended to the sufferer, without consequent benefit, in the form of inhalations, counter-irritants, stimuli, and sedatives, all of which are reported to have relieved or performed cures. In proportion as a disease is prevalent, so are the opportunities great for inquiry; and unless the nature of an evil be clearly demonstrated, so must be the obscurity of the remedies adopted. When we consider that upwards of one-third of fatal disease is connected *à priori* with glandular derangement, it becomes a duty of every individual interested in the welfare of his fellow beings perseveringly to trace the enemy in each early position of its destructive career, bequeathing the result, however insignificant, as a frail memento of solicitude to arrest the predisposition or tendency to so fierce and calamitous an opponent.

The term phthisis is applied to an inflammatory disease, similarly affecting the glandular structures alone, in all situations of the body, developed more especially in those secreting in mucous envelopes, as in the bronchial ramifications of the lungs, and in the intestinal canal, attended with extreme emaciation and corresponding symptoms of

morbid excitation. At the onset of phthisis pulmonalis, numerous glands secreting in the whole of, or more generally in the superior lobes of lungs, are sub-inflamed; these from unremitting action, and probably continued morbid excitement, become inflamed, enlarge greatly, and suppuration succeeds, with subsequent ulceration. In the larger divisions this is satisfactorily demonstrable, whilst in the smaller, from their number and contiguity, these minute bodies run into each other, and produce an apparently homogeneous mass, which, if not extremely fluid, may be defined as an aggregate of suppurating glands of varying solidity, all distinct and separated from each other by seemingly cellular substance, which, in fact, is the dilated delicate structure that constituted the healthy gland.

Phthisis when once fairly established, either in the lungs or in the abdominal parenchymatous organs, from the most obvious cause, admits of no remedy, nor is there even a flattering probability of effective treatment being discovered.

The anatomical and physiological condition of these structures would lead to the inference of its being strictly a glandular affection, whilst the predisposing and developing causes, with the diagnosis, pathology, and chemical analysis of the diseased secretion, would weigh conclusively in favour of its inflammatory and purulent character.

The lungs consist almost entirely of extreme subdivisions of the trachea, apposed by a peculiar fine cellular tissue, with blood-vessels and nerves: these minute anastomoses are perfectly lined by the continuous mucous membrane which descends from the larynx, and which is studded throughout its extent by innumerable secreting glandular bodies, of an elliptical form and of proportionate size to the calibre of the tube; they are more numerous in the superior lobes of the lungs, on account of their extended action, as also from their receiving the direct impressions of prejudicial agencies, whilst the inferior portions, unless influenced by an entire inspiration, would be moderately inactive: thus the superior lobes are more subject to disease, as also the anterior aspect than the posterior. The admirable purposes of these minute bodies are to lubricate the interior of of the air-passages, which must other-

wise become dry and irritable with proportionate loss of flexibility, from unceasing and forcible respiratory efforts; to render innoxious atmospheric and other external gaseous influences; to assist in dislodging by expectoration any foreign particle that might be inhaled or accidentally enter; and to prevent inflammatory consolidation by their increased secretion during the frequent slight pulmonary attacks in a variable temperature and climate. Although the actual causes which primarily occasion this disease are indistinctly understood, those which develop its existence in predisposed habits are satisfactorily established, even in constitutions where no suspicion of its latency had been suspected. We need only refer to statistical tables in reference to this point, and observe the repeated ill effects of certain occupations wherein the mucous tissue of the lungs is long irritated either from floating dust or exciting effluvia. The profession has long been sensible of the positive connexion between scrofula and phthisis, but has not insisted upon the latter as being only a more severe type of the former, in accordance to the dictates of observation. Frequent thermometrical or barometrical variations are especially known to discover either, as also repeated excess of any kind; and the most efficient remedy is as certainly accredited by all practitioners who recommend a purer atmosphere, probably some sheltered marine situation, or a sea voyage, regularity and simplicity of dieting, an omission of the previous exciting agent, and medicaments intended to restore the tonicity of the glandular system. All these means, when perseveringly followed, either in the milder forms of strumous disease or those more severe, which characterize the onset of phthisis, have doubtless been productive of the happiest consequences, and have occasioned the fallacious opinion of their curability: should these constitutional applications, however, fortunately answer the intent *pro tempore*, any succeeding revolution restores either with pristine vigour. Laennec, although somewhat indefinitely, appears to have considered this affinity of scrofula and phthisis more nearly than any other writer, with the exception of the indefatigable and zealous Professors Gravés and Stokes, of Dublin, both

of whom teach the similarity of these diseases. The opinions of Bayle, Cruveilhier, Chomel, and Andral, with some other eminent pathologists, that "tubercles are originally and primarily fluid, secondly solid, and thirdly fluid again,"—*i. e.* that they undergo a process of softening in the third stage, and are at that period evacuated,—is, in fact, a process very like the inflammation, and imperfect indolent suppuration, and discharge of the caseous pus found in furunculous glands on the external surface, and the difference of termination alone consists in the impossibility of obtaining for those which have been evacuated in internal vital organs a necessary respite from duty, in order to admit of the required reparative action; thus the ulcerated cavity enlarges, unhealthy pus streaked with blood is secreted and expectorated, and the whole organ eventually becomes involved in the destructive process, from the impossibility of obtaining the all-essential quietude. The orifice or mouth of the distended gland or tubercle is noticed as being of a dark yellow or livid colour just previous to ulceration and the discharge of the contained pus: this fact may be distinctly noticed in one-third of phthisical cases, in the larger glands situate in the larynx and trachea. The chemical analysis of the tubercles (that is, the glands and their morbid secretion), according to Thenard and other scientific investigators, consists of "animal matter, principally fibrine and gelatine—a few traces of oxide of iron—small portions of hydrochlorate of soda, with phosphate and carbonate of lime,"—all of which exactly constitute a caseous gland.

The stethoscopic indications (if the development of pulmonary struma is sudden and general) are evidently those of acute bronchitis, with some pneumonia, the lung becoming to a certain degree dull on percussion, though every where permeable; and as the ulceration proceeds, a peculiar recurrent crepitating râle is distinctly heard, with gradual increase of dulness on percussion.

The unequal temperature of most dormitories, when compared with the heated sitting-room in which patients are found during the day, must considerably favour the increase of all the fatal and encroaching symptoms, by the

respiration of the cold, damp, nocturnal atmosphere.

If we consult the few valuable records preserved respecting this disease, and compare them with the progressing opinion of the day, we find the most successful medical plans for relieving or arresting the course of incipient phthisis are those by which inflammation is subdued in other structures—such as venesection, potassio-tartrate of antimony, mercurials, with a variety of counter-irritants, also the inhalation of chlorine and iodine, the stimulating vapours of which being applied directly to the minute ulcerated glands, may occasionally tend to restore a healthy action, as is frequently observed in ulceration of the fauces, &c. The materia medica offers few other means which have received the sanction of unprejudiced modern practitioners.—I am, sir,

Your obedient servant,

C. J. H. R.

London, June 1837.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Remarks on the Structure of Tumors.
Read before the Royal Academy of Sciences at Berlin. By Professor MUELLER.

AMONG the works of this truly great anatomist is a short treatise on the nature of Tumors, to which we have just alluded in our extracts from his *Jahres-Bericht*, and of which we now proceed to give some account.

He has taken, as the basis of his descriptions, that which we have long been sure can alone lead to a clear knowledge of the nature, and, if it be necessary, to a good classification of tumors—an accurate examination of their minute structure and chemical composition. We say if it be necessary, for it must be remembered that it is only to suit the convenience of having in one view a number of affections for which particular remedial measures are required, that morbid products producing swellings are separated from the same products in other forms; and that from the list containing them, other

deposits (as tubercle, &c.), which form no perceptible tumor, are excluded. However, the utility of such a classification in practice is sufficient to excuse the force applied to nature. But if it be admissible to make a systematic arrangement of *tumors* only for the practical good that may result from it, every principle of their classification should have regard to that end. Especially we should consider how it may contribute to their diagnosis in the body, or to the prognosis to be given in their examination after removal, and in further advanced knowledge to their treatment. For this purpose it would be best if we could find some constant and easily recognizable character by which all the specimens of any species would be marked and known; but this is always difficult, for forms, different degrees of density, colour, and other general appearances, are too dependent on surrounding circumstances to characterise the growths themselves. At the same time, the objections against the practical use of minute descriptions of structure are overcharged; for here, as in all cases, we find that with certain fixed characters of ultimate structure, the mass presents coincident general characters, though these admit of many modifications. In healthy structures, one does not need to examine ultimate fibres, or to see contraction, or detect fibrine, in order to recognise a muscle, though it would be difficult to define one without reference to these characters. In whatever form healthy tissues occur, their ultimate structure is very nearly the same. And so with morbid growths: when defined by their minute structure and chemical composition, they will soon be found characterised by certain broad general marks; and then we may hope to arrive at the above desirable ends of accuracy.

He first speaks of fatty tumors—morbid productions, in which fat is the chief constituent—and of which he describes three varieties, viz.:—

a. Lipoma, in which the structure is precisely similar to healthy human adipose tissue, with spherical adipose cells.

b. Steatoma, not including here all the heterogeneous kinds which it has usually served to denominate, but one where the adipose cellular tissue is throughout permeated by membranes, so that the interstitial cellular tissue, by its accumu-

lation between the lobules of fat, becomes a principal constituent of the tumor, while in the preceding variety it is found only thinly distributed. *c. Choleostoma*, the laminated fatty tumor, containing cholesterine, as first described by Cruveilhier, with a pearly appearance of the laminæ, which, according to Barruel, has cholesterine and sebaceous fat in its composition. Müller thus describes it:—The laminæ, which are mostly concentric, consist of very thin polyhedral cellular tissue, like that of plants, and quite different from that of healthy fat, but agreeing more with the cellular tissue containing the suet in sheep. Between the laminæ of this polyhedral cellular tissue lie crystals of fatty matter; these have the form partly of flattened rectangular tables, and partly of heaps of thin laminæ with convex edges, like the leaves of plants, which will crystallize also from an alcoholic or ætherial solution.

2. *Gelatinous tumor—Collonema*—consists of an extraordinarily soft jelly-like tissue, which flickers when touched. Its organised basis consists of thinly distributed bundles of fibres and vessels. Its principal part consists of grey globules, somewhat larger than blood-globules, and crystalline spiculæ are scattered through its substance. These latter form its principal characteristics: they consist, not of fat, but of a peculiar animal substance, are mucronate in form, and visible with the microscope through the whole of the tumor, insoluble in acids and alkalies (the latter, removing the rest of the tumor, leaves them isolated), are destroyed by boiling in water, insoluble in hot alcohol, soluble in boiling æther. In two cases thus carefully examined the crystals acted exactly alike, but the basis of the tumor somewhat differently: one found in the brain agreed most with salivary matter,—"the so-named mucus of the English writers,"—the three from the breast yielded a little casein. (This latter did not return after extirpation).

3. *Albuminous fibrous tumor*.—White or yellowish-white, firm, lobulated, fragile, consisting of a ground-work of entangled microscopic fibres, between which a great quantity of globules are scattered. On boiling, it yields no gelatine, but a little caseine; it consists almost entirely of albuminous matter.

4. *Tendinous fibrous tumor*.—The tumor fibrosus, desmoides, firm, fibrous, glistening on its cut surface like satin, and frequently becoming osseous, so commonly developed about the uterus, bones, dura mater, &c.

5. *Enchondroma*.—Round, not lobulated masses, internally cellular, with membranous divisions easily visible, containing a grey transparent matter looking like cartilage, and presenting the characteristic microscopic cartilaginous corpuscles. Most frequently developed in the phalanges and metacarpal bones, which become distended into large spherical tumors, with the remains of the distended bone forming their cortex. Observed five times in the bones, once in the parotid. It gives, on boiling, a large quantity of gelatine. In all cases curable by extirpation.

6. *Angionema*.—Consisting only of dilated capillaries.

In the second division, which contains the different species of malignant tumors (*i. e.* such as will generally return after extirpation), seven forms are described under the generic term of carcinoma, as follows:—

a. Carcimona reticulare.—The species frequent in the female breast. Sometimes lobulated, grey on its section; its basis presenting white, or whitish-yellow, reticulated, irregular, sometimes branched forms, easily visible to the naked eye. These are peculiar formations, and not dilated vessels, as occur in the next species. The grey matter consists of very variously sized globules, which may be easily moved by scraping. The reticulated white part which is the characteristic of this form, consists of accumulations of microscopic round and oval corpuscles, larger than blood-globules. As the tumor develops itself they become more and more numerous, and as it softens they become the predominant constituent. When they are all removed, there remains a firm fibrous basis, whose fibres are interlaced in the most varied and disorderly manner.

b. Carc. fibrosum.—Firm fibrous substance, like that of cicatrices, without the reticulated tissue; the fibres interlaced in the most varied directions, with globules of different sizes between them; frequent in the breast, uterus, stomach, and skin. In this form, which has great firmness, there are seen on a section, white, here and there branched,

streaks, which are dilated vessels, whose tube may be seen with a lens. Sometimes there occur separate cavities (*alveoli*), filled with a thin or a gelatinous matter.

c. Carc. alveolare.—Consisting entirely of membranous cells, from half a line to three lines in diameter, filled with a transparent jelly-like matter, not yielding gelatine on boiling. It may attain a great size, is especially frequent in the stomach, and was once seen with the fibrous cancer in the female breast.

d. Carc. medullare.—Basis of irregularly-webbed fibres, with a predominant quantity of roundish globules of varied sizes. The quantity of matter consisting of these globules, and a fluid which may be pressed out, and with which the meshes of the fibrous basis are filled, forms the characteristic of this species.

e. Carc. hyalinum.—Quite soft, transparent, very vascular on its surface, and admitting of being torn in radiating or trailing bundles, proceeding from firm bases. These consist of adjacent perfectly transparent filaments. The formation of globules, so distinguished in medullary carcinoma, is here wanting. The blood-vessels run with the fibres radiating from their bases, and form a dense vascular net-work on the red surface of the soft spongy substance. Once observed in the breast, and it returned twice after operation.

f. Carc. phyllodes.—Laminated cancer, consisting entirely of firm, large, partially united laminæ, hard, and attaining a large size. Between the laminæ there remain gaps, but they lie with their smooth surfaces on one another, and leave no spaces for the collection of fluid; they consist of interlaced fibres; here and there their margins seem crenated. A rare species; thrice remarked in the breast, and once in the axillary glands, in a fatal case of *Carc. hyalinum*.

g. Carc. melanodes.—Lobulated masses, with a fibrous basis, and interspersed with globules of pigment, partly very minute, partly large and roundish, or oval. The minutest of these exhibit the molecular motion, like those of the pigmentum nigrum of the eye.

Such is a tracing from the sketch of Professor Müller's arrangement. The original paper is, of course, more extended, and illustrated by plates. We

shall not remark further, than to express a hope that his outline will be filled up by the contributions of many other observers. It is evident that his means of examination in recent cases are limited, but he has made good use of whatever has offered. We are aware that Mr. Kiernan, whose character stands so high from his work on the Liver, is at present continuing his ardent researches into the malignant tumors; but we do not know whether he is engaged so much in seeking their minute structure, as in examining their progress and development. We do not doubt that his results will fully sustain his great reputation; and we hope that they may clear the practical view which Müller has endeavoured to give of the subject. No one can have failed to observe the vast difficulty which still lies upon these cases when met with in practice. How often have we seen patients submitting to operations, recommended with hesitation from the uncertainty of the nature of the case, and even after its performance, still left in doubt as to the probability of its being permanently beneficial. The only way to remove this difficulty is to investigate the minute structure and chemical composition (which, as Müller says, must go hand in hand) of every tumor which admits of observation; to connect with each its progress and general character; and with care we may feel assured that accuracy in diagnosis, and confidence in practice, will ultimately be attained.

Zur Diagnostik der Lungen, und Herzkrankheiten mittelst physikalischer Zeichen. Mit besonderer Berücksichtigung der Auscultation und Percussion. Von Dr. P. J. PHILIPP. 8vo. pp. 358. Berlin, 1836. London, A. Schloss.

If the highest praise of genius be original invention, as in truth it is, yet much credit is due to the judicious and industrious compiler. Dr. Philipp seems to be well conversant with the literature and with the practical methods of diagnosing pulmonary and cardiac diseases. The theoretical parts of the subject are discussed with perspicuity—the rules for manipulation are concise, without obscurity.

Amid the strife of conflicting opinions concerning the heart's sounds, the author adopts that of Rounnet, as the

most reconcileable with physiological and pathological facts.

“The first (dull sound) arises from the sudden self-erection of the auriculo-ventricular valves during the systole of the cavities; the second (sharp sound) from the impulse of the returning current of blood against the semilunar valves, during the reaction of the aorta and pulmonary artery against the column which distends them.”—P. 112.

The heart, in consequence of the singular disposition to its valves, may be said to represent a kind of double pump-work with two valves; whereof one allows the passage of the water on the piston being raised, but closing again on the descent of the piston, whilst the other is open to the current of fluid, but, on the other hand, is closed upon the ascension of the piston, and the reflux of the liquid already propelled.—(Müller's Physiology, p. 163.) “Now,” says Dr. Philipp, “can there be aught more analogous than the sounds caused by the alternate opening and shutting of the valves of such pumps and the heart's tic-tac?” Again, in reference to pathology, he observes, “it is indisputable that of all the morbid conditions of the heart, those of its valves are the most constantly associated with modification of the normal sounds.”

Ueber die Unsicherheit der Erkenntniss des Erloschenen Lebens. Von Dr. LESSING. 8vo. pp. 167. Berlin, 1836; London: A. Schloss.

THIS is a curious and recondite production, addressed to the lay portion of the community, containing an ample record of instances of apparent death. The author comments upon the uncertainty of most of the commonly received signs of bodily dissolution, and forcibly inculcates the public importance of temporary receptacles for the dead (*Leichenhäuser*), on the plan of the one erected some years ago by Hufeland at Weimar.

Anleitung zur Krankenwartung. Von Dr. C. E. GEDIKE. 8vo. pp. 208. Berlin, 1837. London: A. Schloss.

THIS professes to be a text-book for the pupils of the *Krankenwart-Schule* of Berlin, which we are told in the preface, was instituted in the year 1832, for the

purpose of providing competent attendants for the sick, injured, and insane. Persons of both sexes, if found duly qualified, are admitted to lectures on the subject delivered by the author; and subsequently to wait upon the patients for a couple of months as supernumeraries in the Charité Hospital, under the superintendence of Professor Kluge. The author gives in a simple and intelligible form all the necessary information which a sick-nurse should possess. The work is divided into short chapters to facilitate reference.

MEDICAL GAZETTE.

Saturday, June 24, 1837.

"Licet omnibus, licet etiam mihi, dignitatem Artis Medicæ tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICINE IN ENGLAND, FRANCE, AND GERMANY.

If one of the chief uses of the history of the past be to enable those who have the guidance of present affairs to judge what will be the effect of certain measures without entering upon dangerous experiments, a no less useful lesson may be drawn from considering the course followed by others who are engaged in the same pursuit of knowledge as ourselves. In sciences, indeed, the comparison of the progress of different contemporary nations must be more instructive than that of the same nation at different periods; for when to one science (as medicine) so many additional auxiliaries are constantly being added, it is difficult to make the cases of to-day and a century past, parallel, by removing all the modifying influences of collateral discoveries. But in the present day, when the same, or nearly the same, light is shed on all the principal countries of Europe by the sciences which border on our own, it cannot but be instructive to observe how the three principal nations

are chiefly occupied in endeavouring to improve this branch of knowledge, and by the comparison of the results each attains, to see how we may correct our own errors or improve our present advantages. For this purpose let us consider how medicine is being cultivated at the present moment in Germany, in France, and in England.

In Germany the principal object of pursuit is evidently physiology. The great prize sought for is the laws of life generally. These attained, they will probably proceed to those of disease, and from these last to their remedies. In France they commence a step higher, seeking first pathology; and from hence they too will doubtless, in time, proceed to the best means of curing the diseases whose laws they seek to know. In England we generally leave the laws to themselves, and strive only to eradicate the evils which flourish under them. The end of all is the same, but every thing marks the difference in the mode followed to attain it: if the publications, and more especially the periodicals, of each country be taken, we find the German sending in the result of some minute anatomical research—the arrangement of a visceral arch, or the development of some beetle's ovum; the Frenchman, a statistical account of some fever, or a table of the relative frequency of each symptom in a disease; while the Englishman adds to our stock of knowledge a new, effectual, and speedy mode of curing a gonorrhœa or a rheumatism.

See the subjects on which they engage in paper wars!—Müller and Arnold quarrel for the priority of discoveries in the minutest branches of the nervous system;—Arnold and Wagner discuss the probability of tubuli existing as part of the ultimate structure of cellular tissue;—Valentin and Wagner debate on ciliary motions, &c. Then Louis

and Broussais criticise the criticisms of each other's critiques * of the statistical system, and of the entity of gastro-enterite, and of the nature of consumption and fever. Here again the air resounds with tumultuous battles on the treatment of erysipelas, the use of ergot of rye, the shapes of knives, and gorgets, and lithotritors. Talk to a student of each nation: the German will tell you of a new con-ferva discovered in the intestines of the cockroach, or the probability that there are beaded filaments in the motor nerves and not in the sensitive. The Frenchman will discuss the comparative merits of the cliniques of Bouillaud and Andral, or the excellence of Cruveilhier's lectures on pathology. The Englishman will relate the wonders of nitrate of silver in a case of ophthalmia, or an astounding operation completely successful. See them in the wards: the first, when *he is found there*, is collecting curiosities for microscopic observation; the second is probably percussing out the dimensions of a spleen; the third is ordering a day's allowance of active remedies, after the most generally received and least established rules.

We have said, the end for which all strive is the same—viz. the best mode of curing diseases. This is true for them each as a body, but not for each person individually: the motives are as different as the modes. The German has generally in view for himself the attainment of a professorship (and there are plenty)—not for the profit only, but for the literary honour he would acquire among his associates;—the Frenchman seeks principally the glory of being the founder of a system, and hearing his own name form the root of a generic appellation for a large, and admiring, and imitating class;—the Englishman is content if he can obtain a sufficient in-

crease of practice to live in comfort with a gentlemanly establishment, and to educate his children in a rank somewhat superior to his own. These are the main objects each pursues for himself personally. The amount of labour employed in each case varies probably much less than is generally supposed: the German does not work harder to learn his Lilliputian anatomy, than the Frenchman who toils in the wards and dead-house, or the Englishman who drives about seeing patients from morning till evening, and has his rest broken six nights in the week by their imperious calls. It is the kind of work only which makes the difference, and which in each case appears to the others wonderful.

Indeed, we think that there is less to be ascribed to what is called national character than is usually supposed: nationality is but, as it were, the ground colour upon which the great of each period paint what tint they choose, and the mass who constitute the nation are but the servants of leaders, whose livery they wear. In thirty years the French were seen successively led by a fascinating queen through the follies of a gaudy court,—led by the eloquence of a Mirabeau to revolution,—by the savage hatred of a Marat and a Robespierre to regicide,—by succeeding despots to succeeding slaughters,—by a victorious general to a tyrannic empire,—and on the loss of this their *leader*, they fell again into the habits of a licentious court. And so, in science, "inferior minds still borrow their behaviour from the great;" and the accidental appearance of a great genius impresses a character on, and gives a direction to, the thoughts of others, which only a long series of years will efface. "You English," said an intelligent German to us, "will not soon produce again a Shakspeare or a Newton; for you admire them so much

* Réponse à l'Examen de l'Examen de M. Broussais de M. Louis, par M. Broussais.

that you are content to imitate, and do not try to excel them : amongst you they are thought the best who most resemble Shakspeare, or best understand Newton,—you give but little reward to those who attempt novelties.” The remark is almost equally true of his own as of our and all other nations. In medicine, it has happened that in England all the great men of late days have been purely practical : even John Hunter was in his own day better and more generally known for his works on practice than for his far more luminous physiological and anatomical discoveries, which are only now fully comprehended and shown forth. With him was Pott, of purely practical talent ; then followed the Clines, Abernethy, and Astley Cooper. The two last especially have had a most extraordinary influence in giving a tone to the pursuits and character of a great mass of the medical practitioners in this country. Through a long series of years, every season sent down through all the land from each of their popular lecture-rooms some hundred or more of practitioners who knew only how to imitate them,—who admitted only the dicta of their teacher, and who complacently regarded all others as innovators. Their influence extended over all branches of the profession, and kept up the practical spirit which had been begun in the days of Sydenham, and had flourished under Ratcliffe, Mead, Fordyce, and Heberden. Short as was the career of Dr. Armstrong, his popularity had given a spur to some hundreds, who, while they despised the authority of “the schools,” would still study and practise upon practical experience only ; for his were after all but loose and *ad captandum* principles. Grounded upon this business-like and matter-of-fact(?) nationality which marks us, we think that the end of attaining personal comfort by reputation for skill in treatment has led the profession in England to the almost en-

tirely practical method in which it is now pursued, and, with few exceptions, studied by all.

In France they have not yet recovered from the dazzling light which Dupuytren cast around ; he has left many faithful disciples and anxious imitators, who follow in his line, and laugh at the more studious and cautious habits of the Doctrinaire school, as it might be called : his love of money was merely personal, and made no impression on the public—at least of the medical world. But his followers are all surgeons, and occupy but a small portion of that part of the profession who make its character. Amongst the physicians and the savants of the profession, it seems as if they were only now finding leaders. The brilliant but frail generalizations of Bichat were a perfect specimen of French science ; daring and persevering, he might have been a Lannes, or a Murat : a spirit, as it were, of gallantry reigns through all his works, and the rays of his setting sun still colour the field of medical science. Laennec soon followed, and by a bright and happy thought clothed with such enticing splendour his more cautious and secure investigations, that his countrymen, pursuing the one by and for the light of the other, have continued in a course which, without this enchanting companion, they would have thought gloomy and irksome. M. Andral and M. Louis have succeeded him ; and his working mantle at least would fit the latter ; but the plain robe, without its brilliants, fails to attract in France ; and while M. Louis lectures to foreigners, the generalizations and extensive information of M. Andral bring crowded theatres, and cast into the shade the unpromising enemy of Laennecism, the “talented but mischievous” Broussais. On the whole there is less singleness of plan among the medical men in France than in either of the other nations : a general character of diligent

inquiry, often cut short and destroyed by their spirit of generalization, and interrupted by their love of novelty and discoveries, are perhaps their most distinguishing features.

HIS LATE MAJESTY'S DISEASE.

WHILE the King continued to live, we abstained from making any comment on his complaint, and even now it is not our intention to do more than place on record a brief but authentic account of the disease of which his Majesty died.

The principal symptoms during life were cough and oppression of breathing, with a very languid state of the circulation, but without the signs of effusion into the chest. As the disease advanced the pulse became scarcely perceptible at the wrist, while the expectoration presented a considerable admixture of blood,—the function of the lungs becoming progressively more embarrassed.

The phenomena taken collectively clearly indicated organic disease of the heart, of a nature not likely to be essentially mitigated by any remedies; and the result which has taken place was therefore fully anticipated by those who were aware of his Majesty's condition;—although, from the circumstance of the royal patient not merely seeing but actually revising the bulletins himself, this was made less apparent in those documents than would probably otherwise have been the case.

On opening the body the heart was perceived to be enlarged and flabby, with a few shreds of soft lymph gluing the surfaces of the pericardium together. The right side was comparatively healthy, but the left showed very extensive disease of both sets of valves; those of the aorta were ossified, presenting an obstruction to the passage of the blood into that vessel, which was rough on its internal surface, but without dilatation. The mitral valves were also ossified, and suffered the blood to

regurgitate. The tendency to bony degeneration extended to the respiratory organs; the larynx, trachea, and even the bronchi, being ossified. The left lung was greatly gorged, and the pleuræ on this side firmly united by thick adhesions of ancient date. In the right cavity of the chest were some twelve or fourteen ounces of serous fluid, probably poured out during the few days immediately preceding dissolution. The liver was enlarged and granulated: there was also slight granular disease of one kidney.

To the medical reader it will be obvious that the deficiency in the general circulation, and the overloaded state of the lungs, are clearly explained by the dilatation without hypertrophy of the left ventricle, the obstruction of the aortic, and patulous condition of the mitral valves.

UNIVERSITY OF LONDON.

WE beg leave to call the attention of our readers to the following extract from the Charter of the University of London.

“And for the purpose of granting the Degrees of Bachelor of Medicine, and Doctor of Medicine, and for the improvement of Medical Education in all its branches, as well in Medicine as in Surgery, Midwifery, and Pharmacy; WE do further hereby Will and Ordain that the said Chancellor, Vice-Chancellor, and Fellows shall, from time to time, report to one of our principal Secretaries of State what appear to them to be the Medical Institutions and Schools, whether corporate or unincorporated, in this our metropolis, or in other parts of our United Kingdom, from which, either singly, or jointly with other Medical Institutions and Schools in this country, or in Foreign Parts, it may be fit and expedient in the judgment of the said Chancellor, Vice-Chancellor, and Fellows, to admit Candidates for Medical Degrees, and on approval of such Report by our said Secretary of State, shall admit all Persons as Candidates for the respective Degrees of Bachelor of Medicine, and Doctor of Medicine, to be conferred

by the said University, on presenting to the said Chancellor, Vice-Chancellor, and Fellows, a Certificate from any such Institution or School, to the effect that such Candidate has completed the Course of Instruction which the said Chancellor, Vice-Chancellor, and Fellows, by regulation in that behalf shall determine; and it shall be lawful for the said Chancellor, Vice-Chancellor, and Fellows, from time to time, with the approval of one of our principal Secretaries of State, to vary, alter, and amend any such Reports, by striking out any of the said Institutions or Schools included therein, or by adding others thereunto."

It is evident from this, that no preference is given to University College, or to King's College, but that students from all efficiently organized medical institutions and schools will be admitted to examination, provided those institutions have conformed to the regulations hereafter to be laid down by the Senate of the University, for the education of medical students.

Since the above was written we have learnt that a deputation from St. Bartholomew's, which waited on Lord Burlington, was referred by his Lordship to the Medical Faculty.

PROVINCIAL MEDICAL ASSOCIATION.

WE beg to call attention to the meeting of the Provincial Medical Association, which is advertised on our wrapper of the present number as to take place, at Cheltenham, on the 19th and 20th of next month. We are happy to state that the Association is in a most flourishing condition,—the members now amounting to 940, thus giving an increased 340 during the past year.—The fifth volume of Transactions has just been published; also a second edition of Volume I.; and a second edition of the Poor Law Report, with an Appendix, which has been most favourably noticed by the press, and is of great

value for reference, and ought to be in the hands of all medical men.

We understand that the arrangements at Cheltenham will be of the first order, and that every thing will be done to produce a happy result from the meeting, which we have no doubt will be very numerously attended.

CLINICAL LECTURE

ON

ABSCESES OF THE MAMMÆ.

BY M. JULES CLOQUET.

[From La Presse Médicale.]

IN order to understand the present subject, it is necessary first to consider the situation and organization of the glands of the mammæ. You know that they are formed of lobes, or lobules, and granulations collected together, lying in the centre of cellular tissue, which forms a sort of atmosphere around them, and penetrates deeply between each of their divisions: from these glands arise the excretory milk ducts, which unite in bundles to open externally, and form the central part of the mamma, called the papilla. These glands receive a great many arterial, venous, and lymphatic vessels. The lymphatics, which arise from very small glands, only visible when swollen, and not hitherto properly described in books, are specially derived from the lymphatic glands of the axilla. The mammæ are also exquisitely sensible, and do not necessarily correspond in size to the gland, for their size depends on the quantity of fat. At the age of puberty they increase rapidly in bulk, and there is a remarkable increase in their nutrition during pregnancy, when the secretion of milk is established, and this is soon followed by the excretion of that fluid. The mammæ, like all other parts of the body, are liable to inflammation, and may become the seat of abscess. But there are special causes which may act more particularly on them at certain periods of the life of women. Thus in studying mammary abscess methodically, a section should be set apart for abscesses which develop themselves during the secretion of milk. Let us first examine abscesses of the mammary gland in general.

In men the mammary gland remains during life in a rudimentary state; yet in boys about the age of puberty we not unfrequently see them become red, swollen, and painful, sometimes on both sides, but commonly only on one. Under the employment of emollient applications, warm clothing, and sometimes of leeches, these

swellings disappear in two or three months. Sometimes, however, this inflammatory swelling ends in suppuration. I have seen this in the case of a musician, in whom the signs of puberty had been late in appearing. In that instance it was necessary to evacuate the purulent matter by an incision.

Abscesses of the *mammæ* also sometimes develop themselves in young girls; and when they are of soft scrofulous habits, the lymphatic glands of the *mamma* may become the seat of scrofulous abscess. But the time at which the *mammæ* of women are most liable to become the seat of abscess is after confinement, whether they nurse their children or not.

The chief exciting causes of this disease in newly delivered women are, sudden suppression of perspiration, from cold acting forcibly on the whole person, or on one part of it, moral causes, and suppression of the menses, &c. But the most frequent cause of all is a defect in the excretion of milk; as, for instance, from a crack on the surface deepening, and at last preventing the mother from suckling her child. These causes may obviously act either singly or together; thus one of the most troublesome coincidences is when the suppression of the excretion of milk is accompanied by a moral affection. The liquid secreted may also become a cause of abscess; but I do not insist on this point at present.

When one, or more than one of these causes has acted on the *mammæ*, observe what happens. The *mamma*, or the part of that organ which is affected, becomes tense and hard, the skin becoming uneven, without any change in its colour. The secretion of milk ceases, or perhaps is only diminished. Sometimes, also, a small hard tumor appears, which is at first indolent, but afterwards becomes painful. The patients have shiverings and pain, with a sense of tension extending to the axilla, which constrains the motions of the arms. If resolution occur, these symptoms disappear. But this is rarely the case, though it does sometimes happen. If, as may be usually expected, inflammation takes place, the size of the *mamma* increases, and accordingly as the gland, or the surrounding tissue, may be affected, the degree of heat, swelling, fever, &c., varies. Sometimes even cerebral symptoms are felt; the skin gets red and thin, and at last bursts, giving issue to a portion of purulent fluid, not proportioned to the size of the *mamma* affected.

Let us then examine the abscess as it varies in the different tissues which it may affect.

All the cellular tissue surrounding the mammary gland may be the seat of the

abscess. The inflammation may be general, but it commonly involves only a definite portion of this tissue; sometimes the part situated between the glands and the skin, sometimes that situated between it and the pectoral muscle, and sometimes that situated at the sides of the *mammæ*. The inflammation may also develop itself in the cellular tissue between the lobes, or involve it consecutively.

Phlegmonous abscesses rarely cause gangrene of the cellular tissue; but I have sometimes observed it, as in the case of the woman Magnan, which you have seen.

The pus of a phlegmonous abscess never contains milk, which we often see in that of a glandular abscess. The progress of phlegmonous abscess is generally acute and rapid, and pus is soon formed; it evacuates itself freely, and the cure is easy. Thus, in the patient of whom we have just spoken, you saw two abscesses develop themselves successively in the left breast, and run their course in five or six hours, without giving any very acute pain. The pus formed rapidly, was evacuated, and the abscess healed. Phlegmonous abscesses are less painful, and less liable to a relapse, than those of the glands, and seldom leave behind them, like the last, swellings which it is difficult to disperse.

If we now pass to abscess of the glands of the *mammæ*, we shall see that new symptoms and new alterations arise. Those abscesses whose progress is slow, in general, are accompanied with sharp darting pains, sometimes of the greatest intensity. In their commencement there are one or more deep hard tumors. Each point of the inflamed lobe forms a separate well-defined knot, which enlarges and suppurates. At first the skin is not involved in the suppuration; it is only so in a more advanced stage. When matter is once formed, if no opening is made by art, the abscess penetrates, and the pus is infiltrated into the adjacent cellular tissue, burrows in it, and excites phlegmonous inflammation, followed by true congestive abscess. In the case of a woman at present in the house, you see that this affection began with a small hard indolent tumor, which swelled, became painful, and the seat of an abscess, which was opened on her admission. Soon after, a new tumor shewed itself on another point of the gland, followed by a new abscess, which was freely opened; and even after this the same patient had a third abscess in the lymphatic glands, near the axilla. When the abscesses are opened either by nature or by art, it is not uncommon to see parts of the mammary gland come away with the milk. The milk then

trickles away in white lines, having a remarkable appearance beside the yellow pus. In such cases it must be admitted that there is rupture of the milk ducts, and a milky fistula opening into the purulent abscess.

But how does the milk get into these abscesses? and how does the milk sometimes itself become a cause of abscess? Perhaps it may be admitted that the milk coagulates in its ducts, that the serous part then escapes alone, while the coagulum remains behind, and offering a mechanical obstacle to the excretion of the milk, causes the liquid to accumulate at the roots of the milk ducts, and makes them inflame, burst, and at last form an abscess; and in the patient to whom I have just alluded, I believe that this was the case. After a painful labour she was delivered of a dead child; she had had a violent milk fever, and her breasts were large, distended, and hard. At the end of eight days she began to leave her bed. The breasts diminished in size, but there was never any complete resolution; the milk was now every day enlarging the mammary gland. At last, after fifteen days, a hard tumor appeared, which was followed by the successive abscesses which I have already described. I think that these abscesses may be rationally attributed to the causes alluded to.

The experiments of M. Donné, on the composition of pus, may at first appear opposed to this theory of the formation of milky fistulæ; but you will soon see that they in reality confirm it. He has found pus in the milk of a woman having abscess of the breast, while I have found milk in the pus of a similar abscess. But M. Donné thinks that the pus which he found in the milk was carried there by absorption, while I conceive that the passage was made directly by the communication of the milk ducts with the purulent deposits. According to my theory, the passage of the milk into the abscess, and of the pus into the milk ducts, is easily explained.

[Since the publication of M. Cloquet's lecture, a letter from M. Donné has appeared, in which he states that he has both found pus in the milk of a woman having abscess of the breast, and milk in the pus of an abscess. He adds, that he had formed no theory as to whether absorption was the cause of this, and expresses his approbation of the explanation offered by the lecturer.]

This question is of immense importance, and ought to be studied carefully; for if it be admitted that a nurse, having an abscess of the mamma, may give pus instead of milk, or at least milk mixed with pus, to

the child whom she suckles, it must have a most important influence on the constitution, and even on the life of the child.

The existence of milky fistulæ accounts very well for the long duration and frequent relapses of abscess of the mammary gland; for you see how irritation and inflammatory action result, almost inevitably, from the presence of pus in the milk ducts, and of milk in the purulent deposits, when they respectively act as foreign bodies.

But besides these numerous abscesses, which are mutually caused by each other, different granulations of the mammary gland, more or less distant from each other, may inflame and become the seat of independent abscesses, which are formed either simultaneously or successively. I have often seen eighteen or twenty such abscesses present themselves.

I do not mean to treat here at length of abscess of the glands, which commonly depends on special causes, or on a scrofulous constitution. Sometimes, however, a ganglion belonging to the mamma becomes the seat of a primitive acute abscess, which may give rise to a phlegmonous one; but you are aware that the course of such abscesses is different from that of those which I have been describing, and is very similar to the course of abscesses in the neck.

The differences in abscesses of the mamma, according to the seat which they occupy, also give rise to different indications as to treatment. But whatever may be the cause or seat of the abscess, a more or less energetic antiphlogistic treatment must be adopted. Leeches, poultices, diet, &c. are the first means to be tried; but they seldom succeed, especially where there is inflammation of the gland itself. When the woman does not nurse her child, purgatives, and saline purgatives rather than vegetable ones, may be of use.

But when all such attempts to produce resolution have failed, and the pus is formed, is the abscess to be opened by art, or left to nature? If the abscess is phlegmonous and superficial, all surgeons agree that it should be opened; but it is generally thought, that if the abscess be glandular, the opening should be left to nature. In this respect I differ from the common opinion; for in all abscesses of the mamma, of whatever nature, I recommend a speedy and free opening. The reasons for the common opinion are these: first, that the aperture will not give free exit to the pus; secondly, that the abscess, left to itself, will make an opening; thirdly, that the hard points will be best resolved when no opening is made;

fourthly, that the swelling will last a shorter time; fifthly, that there is a less chance of cancer; sixthly, that there is danger in admitting air into the cavity of a purulent abscess. As to the pus not freely escaping, that objection may be obviated by making numerous and free incisions. As to cancer, I think the fear of it quite chimerical; and we see the air constantly admitted into abscesses without any bad effect.

I fear much more the risk of the matter (from being left in an abscess of the breast) penetrating into the chest; this accident is fortunately rare; but without entering into that subject, consider the case of a patient at present in the hospital, and contrast the extensive destruction of the right mamma, which was not opened in time, with the rapid cure of the left, which was opened at an early period.

But it is not enough to give issue to the pus by a large incision, it is necessary also to keep the aperture open; and for this purpose I insert a large elastic gum canula, which reaches to the bottom of the abscess, and allows a free passage to the pus. To fix the canula in this position, it is sufficient to tie the free extremity of the sound with a thread, the ends of which are fastened to the skin by slips of adhesive plaster. The best canula for this purpose is the conical extremity of a common sound; for the pus gets more easily into the large lateral openings of the sound, than into a sound terminated by one large opening. As the healing of the abscess advances, the calibre and length of the sound are to be diminished. The piece of canula employed must not be one cut at both ends; for however carefully it has been filed, the cut edge is likely to irritate and injure the parts through which it passes.

You see that by this method all risk is avoided of the cellular tissue being infiltrated, and purulent deposits formed in it, and that a cure is speedily obtained. If similar measures had been usually adopted, practitioners would not look on the opening of a large abscess of the mamma as so serious a matter. Let me, then, repeat the directions which I have given you, so that you may be able to fulfil all the indications which I have been explaining.

When the abscess has been opened, its contents emptied, and the inflammatory symptoms subdued, if the enlargement continue, the best means to employ for its resolution is, without doubt, compression. But this compression must be gentle and uniform; for if the compression be carelessly employed, or be unequal, that alone is enough to cause those very affections

which we wish to combat. Compression may be made by bandaging the body, using the scapulæ as supports, but taking care to surround the vicinity of the breasts with enough of soft charpie to make the pressure equal, and not to cause any inconvenience to the healthy mamma. This bandaging is useful, as it leaves it in our power to treat the abscess in the manner I have just described. Multiplied glandular abscesses are by this means often cured in nine or ten days. In other respects you are aware how simple the mode of treating abscesses of the mamma is.

After confinement, women often feel pains in their breasts, which they are constantly imagining arise from cancer; but in such cases abscess is very much more to be expected. Under these circumstances, compression is the best remedy. But if there be cancer, the parts can in no way be restored to their healthy condition. Compression has also been found very useful in old milk fistulæ, which have resisted all other treatment; and I shall conclude by giving you an instance of this. A woman, aged about 40, was admitted with a regular *diabetes lacteus*; it was, however, as usual, serum, rather than milk, that was discharged. After treating the malady, which was of six months' duration, by all other means, to no purpose, it yielded to compression as if by enchantment. You must of course remember that compression is not to be exclusively employed, and that a sound discretion must be exercised in its use.

THE
APPLICABILITY OF STATISTICS
TO THE
PRACTICE OF MEDICINE.

[Concluded from page 364.]

[M. DOUBLE's paper, which appeared in the last number of this journal, has been replied to by MM. Chomel, Rouchoux, Louis, Velpeau, and others; and as M. Louis' speech comprehends all the arguments in favour of statistics which have been adduced during the discussion, it is here given in an abridged form.]

M. LOUIS IN FAVOUR OF MEDICAL
STATISTICS.

The object of medical statistics is the most rigorous determination which is possible of general facts, which, in my opinion, cannot be arrived at without

their assistance. Thus a therapeutic agent cannot be employed with any discrimination or probability of success in a given case, unless its general efficacy, in analogous cases, has been previously ascertained; therefore I conceive that without the aid of statistics nothing like real medical science is possible.

Medical statistics have been attacked in their application to therapeutics, to normal and pathological anatomy, and to pathology. We must therefore look on them in all these different points of view; and first with reference to pathology. But before proceeding, let me remind you that medicine is a science of observation, and that I seek for truth in facts.

Supposing, then, that you wish to study the symptoms of a disease, you can only do so by carefully collecting a sufficient number of facts; and as you do not always observe the same symptoms in the same disease, you will have to remark the relative frequency of their occurrence in particular cases,—that is, you must begin to count.

It must of course be admitted that symptoms vary according to an infinity of circumstances; yet, to ascertain that these variations take place, and in what they consist, you must count how often each symptom shows itself, in a certain number of cases, under certain circumstances. The more deeply you study a symptom, the more must you count. If you say such a symptom occurs often, or it occurs seldom, you mean that you have seen it five, or twenty, or a hundred times. If you consider the number of cases from which you have to form your judgment not numerous enough to lead to any definite result, you may perhaps look on these results as provisional, until you can employ a more extensive induction. But how many particulars will be necessary to arrive at one general definite result? Reason can give no answer, but experience shows that an indefinite number is not required. Thus six hundred cases have been sufficient to settle definitely the influence of ease on longevity.

Inquiring myself into the effect of sex on the development of phthisis, I obtained a result, which was soon confirmed by M. Benoiston, working on facts of a similar kind, but much more numerous. I might cite many other instances: but to continue.

Suppose that you wished to ascertain the duration of a symptom, would you select a few cases out of a number, and judge by them? On the contrary, to obtain your object, you would evidently have to ascertain the mean duration of the symptom in all your cases, next mark those above and below the mean, and then the extreme limits of its duration; and

because the duration may vary according to age and sex, you must further arrange these facts in groups,—no doubt a troublesome labour, but a necessary one. And if, after observing a great variation in the frequency and the duration of symptoms, you wished to find out its cause, you could not, without having your cases carefully arranged and classified in this way.

It may perhaps be said, that physicians have in all times paid attention to the duration of diseases. They certainly have done so; but they have only said, in a general way, that diseases vary according to a number of causes, are longer or shorter, &c. What I have just said applies to diseases which necessarily terminate in death, or in a return to health. All that writers before our times have told us is, that such and such diseases are more or less often fatal; but such rough guesses or statements are of no value, and daily experience shows that they deserve no confidence.

If, then, mortality, taken in general, can only be ascertained by calculation, how can the variations of mortality, according to age, sex, and strength, be known, without the aid of numerical analysis?—how can we investigate the frequency of sporadic diseases, the predisposing and the exciting causes of disease, without having recourse to numbers?

If we should study two or three particular cases as types, as M. Dubois recommends, we could only arrive at conjectures about the cases under consideration,—we could not satisfy ourselves whether the circumstances preceding the disease were simple coincidences or were causes. But supposing that we did arrive at just conclusions from a few cases, yet they would be confined to these cases, and have no general value. Thus, if, after examining a certain number of cases in different points of view, one circumstance presented itself only six times in the hundred, its importance might be doubted, and it might be looked on as merely a coincidence; but if it presented itself twenty-five times in the same number, its value would be very different. And in this way, in the case supposed by M. Double of bad news being brought to a thousand women in childbed, the physician will not conclude that he may announce bad news to women under such circumstances without any danger: he will only learn that the action of such a case is not likely to be dangerous, which he could only know by the numerical method.

Undoubtedly, by studying numerically the different causes influencing disease, we cannot arrive at any positive result, but we may avoid errors otherwise inevitable. Phthisis is a good instance of this. Sup-

posing, what I am not at all sure of, that phthisis is sometimes the result of the inflammation of the tissues composing the lungs, how can we believe that this is the sole, or even a common cause, when we know that phthisis is more common in women than in men, and that the reverse is the case with regard to pneumonia and pulmonary catarrh; that tubercles are not more common in the case of dilatation with redness and thickening of the bronchi than in subjects labouring under disease foreign to the lungs, other circumstances being the same,—not more frequent in those who sink under chronic gangrene of the lungs than in those who die of a different disorder quite independent of the lungs.

Thus, if we wish to study deeply the symptoms, to know the progress and duration of maladies, their relative frequency and their causes, counting is indispensable; for without it no precise result can be obtained.

Numerous exact and carefully analysed observations have shown, that after the age of fifteen there can be no tubercles in any organ without their existing in the lungs. No less exact observations have shown, that one form of chronic peritonitis is tubercular from its origin. When, then, chronic peritonitis exists, we may conclude that the lungs are tubercular, even though auscultation and percussion afford no signs; and this I have on actual examination repeatedly found to be the case. This is a pretty conclusive argument against those who think that physicians, when they use numerical analysis, throw aside induction entirely.

If, again, after studying the symptoms and the duration of a disease whose termination is sometimes fatal, you wish to ascertain its seat, and whether there did not coexist with the primary lesion other lesions peculiar to it, we must begin anew to count: you will have to learn, by an appeal to facts, what is the primary lesion, and then what are the secondary ones, and the circumstances attending them.

But the primary lesion itself may vary much, according to the different periods of life; and here again you must classify your cases, and appeal to numbers. M. Dubois (d'Amiens), however, will advise you to be satisfied with approximative calculations; but see their result. According to Corvisart, dilatation with thinning of the walls of the heart is common; but on opening his book, and counting, only one case is found. The same statement is made by Bertin and Bouillaud, in their works; yet in forty-five cases of heart disease observed by me at La Charité during eight years, no instance

of it was seen. In the same way, the general statements of Laennec as to ulcerations of the trachea being common in phthisis, but uncommon in those who have not tubercles, are found, on numerical analysis, to be exactly the reverse of the fact. The more gross such blunders are, the more clearly do they show the uselessness of mere approximative results.

Thus the errors produced by the neglect of numerical statistics are shown with regard to pathological anatomy, as well as to pathology itself.

If I am to allude to the case of typhoid fevers, the reason why their nature has not been understood till modern times is, not only that post-mortem examinations used to be neglected, but also that the knowledge of their symptoms and lesions had been trusted to memory, and numerical analysis not been employed; but since facts have been accurately observed, it has been ascertained that typhoid fever is a distinct affection, confined to youth, and not a complication of other diseases. How the ancient doctrine of its being a complication of other diseases should have been supported by M. Double, excels my astonishment.

As to normal anatomy, it was not at first necessary to apply reckoning to the deviations from it; but now, every surgeon knows the importance of being aware of the variations in the distribution of the arteries. And how can the knowledge of these aberrations be obtained without the aid of statistics? At first, it was impossible to distinguish a heart which was hypertrophied, or merely dilated, from one in its healthy condition. But after Bizot had carefully examined the hearts of a great many individuals of different sexes and ages, who died with healthy hearts, he was enabled to ascertain its normal condition, and to give a healthy standard by which to judge of its aberrations. Thus the results derived from the numerical method in pathology and in normal and pathological anatomy, are not of imaginary, but of really practical value.

I come now to therapeutics, and suppose that you have some doubt as to the efficacy of a particular remedy: how are you to proceed? Will you compare two cases in which the remedy has been employed, with two similar ones in which it has not? Surely not; for you know that the inference drawn from them would be of no general value. You would take as many cases as possible, of as similar a description as you could find, and would count how many recovered under one mode of treatment, and how many under another; in how short a time they did so; and if the cases were in all respects alike,

except in the treatment, you would have some confidence in your conclusions; and if you were fortunate enough to have a sufficient number of facts from which to deduce any general law, it would lead to your employment in practice of the method which you had seen oftenest successful.

The state of the question, then, is this: every one has recourse to counting, but some approximatively, and others exactly. How, then, can it be said that a general approximative, *i. e.* imaginary mode of reckoning, is preferable to an exact, *i. e.* a real one. The first, which is merely the impression retained by the memory, is quite uncertain; while the other, resting on actual facts, is sure, and deserving of confidence.

As to the argument that it is very difficult to combine many similar facts, so as to draw from them conclusions applicable to particular ones, I have shewn that this difficulty is quite as great in the case of those who do not adopt numerical analysis, and that it is one of the circumstances which render it necessary. I may add, that the difficulty is greatly exaggerated by those who talk theoretically on the subject, because the laws discovered by the numerical method, in every department of medicine, are every day confirmed by observation.

Those who argue against statistics talk a good deal of their study of medical literature; but what is the use of it if it cannot lead to any general views of treatment? or what is the use of writing, if we can only state particular cases, without drawing any general inferences, or making any advantageous use of the past?

It must be admitted, as M Double remarked, that the general didactic works which are in the hands of young medical men are of little use in practice; but this is attributable to the faultiness of the works themselves; and if you examine the works of D'Espine, or of Maunoir, where the numerical method has been employed, you will soon discover their superior excellence.

It has been said that I refused to rest the argument on the case of typhoid fever, but I only remarked, that, without the aid of numerical analysis, it is impossible to lay down any absolute mode of treatment; and when it was said that two patients having the same disease could not be treated in the same way, I merely referred to the case of intermittents, dysentery, and painter's colic, where the same treatment is almost universally successful.

Again, it has been said that as facts are so variable, we must always be guided

at the bed-side by indications. But these indications can only be understood by experience—that is, by the analysis of facts previously observed. It was from a perception of its usefulness, not from any wish to assimilate medicine to the other sciences, that I adopted the numerical method; and in fact, without it, I could have turned to no practical use the numerous facts which I had collected on the subject of phthisis.

I wonder that our adversaries, who impugn the value of medical statistics, have not questioned the importance or truth of the results to which they have conducted; and, until they have done so, the advocates of the numerical method may fairly consider themselves in the right.

I have had to prove the value of numerical analysis applied to medicine; I think that I have demonstrated by facts its indispensable necessity; and I end by remarking, that numerical analysis, which is of no use without numerous and well-observed facts, must, in its turn, have great influence in rendering perfect the observation of facts. For when we are at the trouble of analysing, to draw rigorous conclusions from facts, exactness is essential. This, I think, will be denied by no one.

To conclude, if any thing has astonished me in these debates, it is to see the partisans of statistics accused of confining themselves to ciphers, and of reducing medicine to simple addition, when they have applied all their power of study and reflection to the details of facts*.

REMARKS ON ERYSIPELAS.

BR M. BLANDIN.

[From a Clinical Lecture in the *Gazette des Hôpitaux*.]

THE causes of erysipelas are either external or internal: the former are commonly obvious, as in the case of wounds,—the latter are less so, and most likely depend on the state of the atmosphere. These internal causes, introduced probably by the lungs, alter the fluids, which, having acquired irritant properties, deposit the miasmatic principle in the part of the body most disposed to receive the disease.

It is common to call erysipelas merely a cutaneous inflammation; but it is always attended, or rather preceded, by greater or less affection of the lymphatics. Thus pains, shiverings, and horripilation, always precede an erysipelatous attack. The in-

* ERRATA.—In M. Double's paper, page 362, col. 2, line 18, for "profuse," read "professed."

tensity, however, of the lymphatic and of the cutaneous inflammation, is not necessarily the same; for in traumatic erysipelas the inflammation of the lymphatic system predominates, while in erysipelas arising from internal causes the cutaneous affection is the most severe. This accounts for the severity and tendency to spread of the first, and for the comparative mildness of the second. The cause of the usually centripetal course of erysipelas is to be found in the rapid progress of the inflammation along the lymphatic vessels; the cause of its course being occasionally uncertain, is probably that the inflammation of the lymphatics sometimes spreads eccentrically, as in phlebitis. When erysipelas arises from both the causes above mentioned, it is the most severe.

Treatment.—1. It is only in erysipelas arising from external causes that leeching is useful. 2. I have found the employment of emetics and tonics of no use. 3. The use of vesicatories, as recommended by Dupuytren, has in my hands almost always failed. 4. It is only in erysipelas from internal causes that active treatment can be dispensed with. 5. The use of unctuous substances may be of service as a palliative. 6. I have no high opinion of the infriktion of mercurial ointment. 7. The method of compression is perhaps useful in the early stages of traumatic erysipelas; but it is chiefly so in the other form of the disease, and towards its end. 8. As to the cautery by nitrate of silver, I have never been able to stop the progress of the disease by its means.

With respect to my own method of treatment, I first attack the inflammation of the lymphatics; and this I do by applying leeches on the lymphatic glands in which the inflammation remains stationary for a time; but I think that it is of no use to place the leeches on the surface of the skin when once inflamed. I find this method very useful in cutting short the disease. The chief point in this method of treatment is to be able to distinguish the lymphatic glands which are chiefly inflamed. It is easy to distinguish them in erysipelas of the limbs and of the head, but less so in that of the body. This mode of treatment is not applicable to erysipelas arising from an internal cause, because the lymphatic system is hardly at all involved in the disease.

REMARKABLE CASE OF PARTIAL PARALYSIS.

THE following instructive case of paralysis is given by Dr. Magnus, of Berlin, in

Müller's Archiv für Physiologie, Heft ii., 1837. A woman who had lost her husband a short time before her first confinement, and suffered great grief in child-bed, was seized after premature cessation of the lochial discharge, with sudden loss of speech, and hemiplegia, and slight insanity. She was treated as for apoplexy, by bleedings and evacuants, and after a time regained successively her speech, her perfect reason, and the use of her limbs. She remained well for some time (the period is not stated), till she caught cold during menstruation; the discharge was checked, and for the next month she remained slightly unwell, but without any definite affection. At the end of the fourth week, when the menses should have returned, she was seized with an attack similar to the preceding. The same physician again treated her in the same manner, and succeeded in restoring to her the use of the same paralysed side, which was this time less severely affected, and in removing the partial immobility of the lower jaw, but the affection of the speech resisted all treatment. When Dr. Magnus saw her, her condition was as follows:—Her face was perfectly smooth and unwrinkled, totally motionless, and without expression, and the saliva constantly flowed from her open lips. Speech was impracticable, but there was not aphonia, for she could utter sounds, though she could give them neither particular tones nor articulation, not even to pronounce any of the vowels, but saying *ang* or *ong*, whenever she attempted an *a* or an *o*. The motions of the muscles of the face were totally suspended; she could neither open nor close the lips, which remained in a medium situation, and she was obliged to use her fingers to shut them. The eyelids were equally affected, except so far as they were influenced by the motions of the eye-ball, which were perfectly free, and of the levator palpebræ superioris, which would raise the upper lid. When told to shut her eyes, she looked downwards, but the eye-lids were but slightly approximated; to close them entirely, she was forced to use her fingers. But if the hand were struck quickly towards the face, or the patient brought suddenly into a bright light, or if she sneezed, the eye-lids instantly shut. They were completely closed, too, in sleep. The motions of the iris were perfect and regular. She could wrinkle neither the forehead nor the brow, nor move the nostrils, cheeks, nor chin; but the lower jaw could be raised and depressed, and she could masticate, though but imperfectly and slowly. The tongue was perfectly immoveable by the will, and to masticate

her food the patient was forced to push it between her teeth with her finger, and to swallow it she had to force it to the back part of her mouth into the pharynx, when involuntary deglutition took place. To drink, she had to raise her head and pour the fluid into the back of her mouth, and let it be swallowed involuntarily. Her taste, and the sensation of the face, were uninjured. When saliva happened to accumulate in the back of her mouth, it was involuntarily swallowed. When made to laugh or smile, all the muscles of the face presented the same motions as in that action in healthy persons, though quite involuntarily. This seemed the only stimulus that could excite them to act, for pricking and pinching the skin had no effect. In laughing, too, she uttered different and unusual tones; they were inarticulate, but proportioned to the degree of laughter; but that they were involuntary was evident from her inability to stop them, and their continuing after all the motions of laughter as in a healthy person had long ceased. Thus in the eye-lids, the tongue, and the laryngeal muscles, the same affection was evident; the patient was totally unable to move them voluntarily, but they could all be acted on by particular stimuli, independently of the will, and even against it.

Every thing tended to prove the case to be the result of cerebral apoplexy; but the chief interest lies in the physiological and pathological deductions from the case. The principal are as follows:—

That the muscles of the palate and pharynx are removed from the influence of the will, and are subject to the reflected action of the medulla oblongata after the reception of stimuli from their sensitive nerves. The impressions received by the branches of the glosso-pharyngeal and vagus in the fauces, palate, and pharynx, being propagated to the medulla oblongata, and from it, involuntarily and often without consciousness, through the motor filaments of the same nerves to the muscles of the same parts. In this respect it is a most important additional proof of the functions of these nerves, as pointed out by Dr. M. Hall and Müller.

That the orbicularis palpebrarum will act involuntarily when excited by reflection, after a stimulus has been conveyed to the brain through the optic nerve; which, though clearly proved by the same author's observations, wanted pathological confirmation.

That certain affections of the mind are capable of putting into action muscles which do not answer to the will, to which they are usually entirely subject; as in this case, where, during laughing, the

muscles supplied by the seventh pair produced the expression of the face proper to that action, but were to all other stimuli immovable.

The only mode of explaining this is by supposing that the ideas excited to produce laughter induced a stronger exertion of the will than any other stimulus could, as in cases of partial slight paralysis, in which a great exertion can produce some motion of the affected muscles. This is the idea the author himself favours, and it certainly seems the most probable. If it be correct, the case would, in this respect, rank with all those where, under severe affections of the mind, remarkable acts of strength have been performed by invalids who could not, by common exertion of the will, have effected the slightest actions.

That the patient should have been unable to check her smile, or the tones produced in the larynx in hearty laughter, is only the same case as in other incomplete paralysis, where the patient cannot stop a motion he has himself commenced—as the swinging of his arms, &c. It requires, indeed, in all cases, as much an exertion of the will to check as to originate a voluntary motion.

It would be well, however, to see whether, as this action of the muscles was produced in common with another reflex action of the same nerve (in the closing of the eye-lids), there was not some connexion between them. The frequently involuntary character of laughter, the possibility of exciting it against the will, by impressions on the extremities of sensitive nerves, as in tickling, and the associated actions of the respiratory muscles which produce it, are so many circumstances establishing a close relation between it and the truly reflex motions. It is certain that the reflex motions, though independent of, are not always separate from sensation, as Dr. M. Hall, had imagined: it remains to be seen whether those produced by mental impressions have not many characters in common with them.

SUGGESTIONS

ON THE MODE OF

REMUNERATING MEDICAL MEN FOR PAUPER ATTENDANCE.

BY JAMES BEDINGFIELD, Esq.,
Stowmarket.

(Communicated by Mr. Rumsey.)

AFTER the best consideration I can give the subject, I have arrived at the conclusion, that the medical man would be

best and most equitably remunerated for his attendance on the poor by being paid so much per visit, according to the distance he had to travel: thus, to all families living within one mile of his residence, he might receive 6*d.* per visit; within two miles, 9*d.*; within three, 1*s.*; within four, 1*s.* 6*d.*; within five, 2*s.*; within six, 2*s.* 6*d.*

Further, he ought not to go, and the country is now so fully supplied with medical men, that there would seldom be occasion for him to go so far.

For his visitorial fee he should engage to furnish the necessary medicines,—the only extra charges should be for midwifery, trusses, and leeches.

The power of giving or refusing orders for medical attendance ought to be taken from the relieving officers, and restored to the overseers and churchwardens of the parish in which the applicant resides; or, which would be preferable, vested in some humane and responsible person in each parish, chosen by the rate payers. From extensive experience I can undertake to affirm that the relieving officers are *unable*, even if they are willing, to do justice either to the poor man or the medical attendant; and the overseers and churchwardens of large parishes have too many other parochial duties to perform to permit them to pay the requisite attention to the sick poor.

The person selected by the rate-payers ought to be styled, in contradistinction to the present guardians (who, with a few honourable exceptions, have constituted themselves the guardians of their own pockets only), the poor man's protector. The rate of payment I have named may by some be thought too high, by others too low; if so, it might be regulated by circumstances. Thus, where the population is numerous, the practitioner could visit for something less; where the country is thinly inhabited, he might be paid something more.

In urgent cases, the humanity of the medical man would prompt him to visit his patient more than once a day if necessary; but, to guard against imposition, he ought not to be paid for more than one visit per diem.

I become daily more and more convinced of the injurious tendency of the penny-club system. In this neighbourhood its effects have been the following:—to induce the parish surgeon to neglect his parish patients in order to compel them to become members of his club; by which line of conduct he flatters himself that he shall be twice paid—first by the parish, and next by the patient. Here, however, his calculations will fail him; for he will soon discover that as the number of his club

patients increases, his parish pay will be diminished. But these are not the only nor the greatest evils. The agricultural labourer is so inadequately paid for his services, that, low as the rate of admission to these clubs may seem, it requires more than he knows how to spare from his immediate necessities.

Nov. 14, 1836.

CONDUCTION OF SOUND.

To the Editor of the Medical Gazette.

SIR,

DR. BUDD having honourably admitted my priority in those explanations respecting the stethoscope in which we agree, and not having answered my objections to those points in which we differ, I will only trespass on your notice in a few lines to justify my claim to some originality in my physical explanation of the effect of different media in the conduction of sound. This explanation implies that sounds, in passing through different media, suffer loss not only by *reflection*, in the manner noticed by Dr. Budd, but also by molecules, which differ in elasticity, *interfering with and neutralising* each other's vibrations; constituting what Sir J. Herschel has since illustrated, in his paper on "Absorption of Light and Sound*," &c. At the time when my observations on the properties of sound were written (in 1827), I sought diligently for authorities to refer to, and I could not find, in any of the works on natural philosophy to which I had access, any physical exposition of the phenomena in question. That certain parts of the subject had been investigated *mathematically* in the writings of Euler, Poisson, and Weber, I do not dispute; but that the treatise of Sir J. Herschel, in the *Encyclopædia Metropolitana*, in which Dr. Budd says there is a general statement of the law, could have afforded me no assistance, is plain, from the fact that this treatise was not published till 1830, more than two years after the publication of my chapter on the properties of sound. In the later addition I have adverted to this circumstance:—"I have not the presumption to suppose that this distinguished philosopher ever saw them; but it is satisfactory and gratifying to me that he has advanced views and modes of illustration very similar to mine."

I have the honour to be, sir,

Your obedient servant,

CHARLES WILLIAMS.

Half-Moon-Street, June 19, 1837.

* *Philosophical Magazine*, vol. iii, 1833.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns up to Tuesday, June 20, 1837.)

	PRICE.						DUTY.	DUTY PAID	
	£	s.	d.	£	s.	d.		In 1837 to last week.	Same time last year.
Aloes, Barbadoes, D.P. c	12	0	0	to 30	0	0	{ B P. lb 0 2 } F. lb 0 8 }	36,246	52,013
Hepatic (dry) BD..... c	5	0	0	14	0	0			
Cape, BD. c	1	10	0	1	16	0	F. lb 1 4	251	677
Aniseed, Oil of, German, D.P. lb	0	9	0	0	9	6	E. I. 1 4	650	90
E. I. lb	0	7	0	0	7	6	c 6 0	7	56
Assafoetida, B.D. c	0	2	10	0	5	0	lb 0 1	1,186	1,312
Balsam, Canada, D.P. lb	0	1	3	0	1	4	c 4 0	120	125
Copaiba, BD..... lb	0	2	7	—	—	—	lb 1 0	346	1,085
Peru, BD. lb	0	5	0	—	—	—	c 4 0	70	34
Benzoin (best) BD..... c	25	0	0	50	0	0	c 1 0	281	204
Camphor, unrefined, BD..... c	9	0	0	—	—	—	lb 1 0	14,913	10,895
Cantharides, D.P. lb	0	5	6	—	—	—	lb 4 0	807	907
Carraway, Oil of, D.P. lb	0	9	0	—	—	—	lb 0 1	2,096	3,499
Cascarilla or Eleutheria Bark, D.P. c.	1	15	0	—	—	—	lb 1 4	1,504	2,900
Cassia, Oil of, BD..... lb	0	9	0	—	—	—	c 1 3	3,254	3,038
Castor Oil, East India, BD lb	0	0	6	0	0	10	{ lb 0 6 }	147	668
West I. (bottle) D.P. 1½ lb	0	2	3	—	—	—			
Castoreum, American lb	1	15	0	—	—	—	c 1 0	16,194	48,681
D.P. Hudson's Bay lb	1	0	0	1	4	0	{ lb 0 1 }	94,933	55,483
Russian lb	—	—	—	—	—	—			
Catechu, BD. c	1	0	0	—	—	—	lb 0 2	5,067	6,579
Cinchona Bark, Pale (Crown) lb	0	2	0	0	3	6	lb 0 2	8,812	8,147
BD. Red lb	0	3	0	0	6	0	lb 0 6	14,330	13,288
Yellow lb	0	1	3	0	2	0	c 4 0	47	54
Colocynth, Turkey lb	0	2	6	0	4	0	c 4 0	346	171
D.P. Mogadore lb	0	3	0	—	—	—	c 6 0	24	8
Calumba Root, BD. c	1	4	0	2	5	0	{ c 6 0 }	1,626	53,25
Cubebs, BD. c	3	0	0	—	—	—			
Gamboge, BD. c	5	0	0	15	0	0	c 6 0	1,024	1,623
Gentian, D.P. c	1	4	0	—	—	—	c 6 0	268	1,758
Guaiacum, D.P. lb	0	1	0	0	1	8	c 6 0	190	128
Gum Arabic, Turkey, fine, D.P. c	8	0	0	9	0	0	lb 0 1	2,546	19,901
Do. seconds, D.P. c	5	0	0	7	0	0	lb 1 0	6,010	5,773
Barbary, brown, BD. c	3	19	0	—	—	—	lb 0 6	33,048	23,291
Do. white, D.P. c	4	15	0	—	—	—	{ lb 0 3 }	13,495	5,901
E. I. fine yellow, BD. c	3	0	0	3	10	0			
Do. dark brown, B.D. c	1	15	0	2	5	0	oz 6 0	10,69	641
— Senegal garblings, D.P. c	4	15	0	5	0	0	{ c 6 0 }	77	96
— Tragacanth, D.P. c	13	0	0	20	0	0			
Iceland Moss (Lichen), D.P. lb	0	0	2½	0	0	3	lb 2 6	838	859
Ipecacuanha Root, B.D. lb	0	3	0	—	—	—	lb 1 0	16,513	14,612
Jalap, BD. lb	0	1	7	0	6	0	lb 4 0	515	227
Manna, flaky, BD. lb	0	5	0	—	—	—	lb 0 1	102,835	133,003
Sicilian, BD. lb	0	1	7	—	—	—	lb 1 0	14,181	21,968
Musk, China, BD. oz	1	0	0	1	8	0	{ F. lb 1 0 }	3,637	4,205
Myrrh, East India, BD. c	5	0	0	14	0	0			
Turkey, BD..... c	2	0	0	11	10	0	lb 1 0	2,841	2,219
Nux Vomica, BD..... lb	0	8	0	0	9	0	lb 0 6	55,898	51,594
Opium, Turkey, BD. lb	0	15	6	0	15	0	{ lb 2 6 }	4,793	3,978
Peppermint, Oil of, F. BD..... lb	1	0	0	—	—	—			
Quicksilver, BD. lb	0	3	8	—	—	—	E. I. lb 0 6	48,747	45,811
Rhubarb, East India, BD. lb	0	2	0	0	3	6	{ Other sorts 0 6 }	34,805	39,850
Dutch, trimmed, D.P. lb	0	3	6	0	4	6			
Russian, BD. lb	0	8	3	—	—	—			
Saffron, French, BD. lb	0	18	0	0	19	0			
Spanish lb	1	1	0	—	—	—			
Sarsaparilla, Honduras, BD..... lb	0	1	0	0	1	9			
Lisbon, BD. lb	0	2	0	—	—	—			
Scammony, Smyrna, D.P. lb	—	—	—	—	—	—			
Aleppo lb	0	12	0	0	15	0			
Senna, East India, BD. lb	0	0	3	0	0	4			
Alexandria, D.P. lb	0	1	6	—	—	—			
Smyrna, D.P. lb	0	1	0	0	1	3			
Tripoli, D.P. lb	0	1	0	0	1	3			

†‡‡ BD. In Bond. — c. Cwt. — B. P. British Possessions. — F. Foreign. — D. P. Duty paid.

LACK OF GOOD FAITH.

METAMORPHOSIS OF A CHEMIST INTO A
SURGEON.*To the Editor of the Medical Gazette.*

SIR,

As you are the Editor of a medical journal, it will be your anxious wish to uphold the respectability of the profession to the utmost of your power; and as I am convinced that you will take a lively interest upon any subject that may appear to be beneficial to it, and to preserve it inviolate, so I am equally sure that you would be as indignant if an attempt were to be made to disgrace either the whole of the profession as a body, or a single individual member belonging to it. There is one class of persons that would readily stoop to almost any degradation to attain their end, without even a blush. It too often happens that petty offences are committed, in the expectation that the wronged will silently submit to the wrong done, rather than take upon himself the trouble, or the duty he owes to others, of making that exposure public, which being culpable, I do not wish shall be chargeable upon myself; and with your permission, Mr. Editor, I will briefly state the particulars of a fraud that has just been practised upon me by a member of the medical profession; it will shew the danger of relying too much upon the "honour of a gentleman," or rather of measuring the meaning of these words by the usual standard of the interpretation.

About six weeks ago, being desirous of removing into my present abode, situated at a very short distance from my late residence (in the Lower Road, Islington), where I had lived and practised as a surgeon for the last eight years, and being naturally solicitous that my interest in that neighbourhood should not be prejudiced by the appearance of a rival practitioner, I agreed to let my late residence to an applicant of the name of Frederick Dawson, who represented himself to be simply a chemist and druggist. I explained to him the objection I had of a surgeon taking it; he then renewed his assurance, pledging his word of honour as a gentleman to the fact, declaring that his future business there would be carried on merely as a chemist and druggist. I, of course, could not doubt the truth of his statement, nor did I doubt it for one moment; but what will you say, sir, when you hear that this *honour pledging* Frederick Dawson appeared emblazoned in front with the formidable words "Surgeon and Accoucheur" appended instead of those which I had expected—viz. Chemist and Druggist.

At the commencement of my profes-

sional career I paid several hundred pounds to the surgeon whom I succeeded in those identical premises for his medical practice and introduction; and as I was actuated by no mercenary feeling to reimburse myself for any portion of my original outlay, nor was I guilty of any fraudulent transaction in any part of the business with my *honourable* successor, it is certainly hard that I should have been treated so unhandsonely by a member of a liberal profession.

It remains with you, sir, to give to this affair all the publicity in your power; and by so doing I sincerely hope that it may be the means of deterring others from acting in the same disgraceful manner towards their medical brethren. Two very respectable persons accompanied Mr. Frederick Dawson to my house,—one, I believe, is a surgeon residing in Whitechapel, the other a chemist in Crown-Street, Finsbury; both of the gentlemen I believe to be too honourable to have countenanced their friend in any fraudulent transaction. No reply will be made to this.—I am, sir,

Your obedient servant,

RICHARD HARDY, M.R.C.S.

8, Gibson-Square, Islington,
June 22, 1837.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED
CERTIFICATES.*Thursday, June 21, 1837.*

Henry Churton, Whitechurch, Salop.
Robert Harper.
Henry Meredith Townsend, Bromley.
Archibald Cocke, London.
Charles Thomson, Exeter.
Joseph Morrish, Plymouth.
John Callan, Liverpool.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, June 20, 1837.

Abscess	1	Hæmorrhage	2
Age and Debility	49	Heart, diseased	2
Apoplexy	7	Hooping Cough	11
Asthma	11	Inflammation	33
Cancer	2	Bowels & Stomach	3
Childbirth	3	Brain	4
Consumption	56	Lungs and Pleura	7
Constipation of the		Influenza	1
Bowels	2	Insanity	1
Convulsions	29	Jaundice	1
Croup	2	Liver, diseased	2
Dentition or Teething	4	Measles	15
Dropsy	18	Mortification	3
Dropsy in the Brain	11	Paralysis	1
Dropsy in the Chest	1	Small-pox	6
Epilepsy	1	Stricture	1
Erysipelas	2	Thrush	1
Fever	13	Tumor	1
Fever, Intermittent,		Unknown Causes	17
or Ague	1		
Fever, Scarlet	3	Casualties	11
Fever, Typhus	5		

Increase of Burials, as compared with }
the preceding week } 53

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ABSTRACT

OF

LECTURES DELIVERED BEFORE
THE COLLEGE OF SURGEONS,

In April 1837,

BY PROFESSOR STANLEY.

LECTURE IV.

ON NECROSIS, AND REPRODUCTION OF
BONE.

IN continuance of the system of tracing the analogies between the effects of inflammation in bones and in the soft tissues, it is found that when inflammation attacks a bone to a degree too violent for its vital powers, it perishes. It must be granted, however, that previous to the death of the bone we are not always able to recognize the presence of inflammatory symptoms; but that this loss of vitality is sometimes preceded and produced by inflammation, is proved by a case which Mr. Stanley related as follows:—

A female, æt. 17, died a month from the commencement of an attack of deep-seated inflammation of the leg. On examining the limb, the periosteum was found separated from the shaft of the tibia in its whole extent; the space between it and the bone was filled by purulent fluid; the bone itself was of a deep red colour, which could not be removed by wiping, and was evidently produced by blood stagnant in the vessels. The absorbents, too, had already begun the process of separation, a superficial groove being observable extending completely round the tibia, about two inches below its head.

The colour of the dead bone depends on its exposure to, or exclusion from, the atmosphere; in the former case it may become dark brown or black. This change of colour can scarcely be owing to the de-

composition of matter infiltrated into the bone, for we find it in the hardest osseous tissues, and where it was not likely that any fluid should have soaked into their substance, as on the convex anterior surface of the frontal bone. The texture of the necrosed portion depends entirely on the circumstance whether it has or has not been the subject of any previous morbid change. If, for instance, it have been affected with chronic inflammation before it lost its vitality, then it will present the dense hardness which is always the result of that process. If, on the other hand, absorption of its earthy matter had taken place in it before hand, the dead bone will be found so fragile and soft as to yield to the slightest compression; or it may have been the subject of some peculiar morbid change, and in these cases numerous varieties of colour and texture are met with.

Necrosis is, it is well-known, more frequent in the compact than in the cancellous texture: our museums all contain many specimens of it in the former, though but few in the latter. This is evidently the result of the lower degree of vascularity, and it may be said of vital power, in the compact structure; and it is well illustrated by the effects of the excessive use of mercury on the bones of the upper and the lower jaw. The former very rarely perishes, the latter very frequently, from this cause; and so, too, in necrosis of long bones, the articular extremities are very rarely included in the disease.

As a general rule, however, when the walls of a cylindrical bone perish in their whole extent, the medullary texture suffers with them; but a drawing of a specimen proving a remarkable exception to this was shewn, in which, in consequence of the application of nitric acid to a phagedenic ulcer in the leg, the whole of the periosteum covering the tibia became inflamed; here the walls had become ne-

crossed, but the medullary texture had entirely retained its vitality.

In the whole circle of pathology there is not a process more full of interest and instruction than that by which the dead bone is separated from the living — the process of exfoliation as it is commonly called. There was none in which Mr. Hunter felt more interested. He first explained the mode in which the separation took place, and corrected the idea before generally received, that the old bone rotted away, remarking in his lectures, that “the old bone was only dead, and not in the least putrid.” A great part of the interest attached to this subject results from the analogy which the separation of a necrosed portion of bone presents in all its particulars to the separation of a common slough from soft parts. In making an issue, the first step is to kill a portion of the skin. Very soon increased vascularity of that adjacent is noticed, and a red line forms immediately around the eschar. And so it is with bone; the parts surrounding the dead portion directly become preternaturally vascular. [A beautiful magnified view of this condition was shewn, illustrating it.] This Mr. Hunter had noticed, where he says in his lectures, that “when a piece of bone becomes absolutely dead, it is then to the animal machine as any other extraneous body, and adheres to it only by the attraction of cohesion. The first business of the machine is therefore to get rid of this cohesion, and discharge it. For effecting this separation there are several natural and successive operations going on. The first effect of the stimulus is on the surface of the living bone, which becomes inflamed.”

The next stage of the process is the formation of a groove between the dead and living bone, effected, as Mr. Hunter first shewed, by the absorption of that part of the living bone which is contiguous to the dead, its earthy matter being first taken away, and then its animal part. This Mr. Stanley had often observed in cases where the exfoliation of the fractured end of a bone was taking place. When it had just begun, the living bone immediately adjacent to the dead portion was found softened by absorption of its earthy particles, as if it had been immersed in diluted acid. A channel was soon formed in it; and as this became gradually deeper, it separated the dead from the living bone.

As this groove grows deeper, it is filled by granulations arising from the living bone; and hence, on separating a piece of necrosed bone, there is seen next to it not the surface of the living bone, but the layer of very vascular granulations by

which it is completely covered, and with whose soft velvet-like appearance every one must be familiar. And in correspondence with the granulations that have sprung up from the living bone, we have the well-known rough surface of the dead, with its multitude of prominences and excavations, fitted to the granulations, which, as it were, push out, extrude, the dead bone from the cavity in which it is lodged [as in the specimens shewn from the museum of St. Bartholomew's.]

The exfoliation of a bone, and the shedding of the horns in deer, take place by a similar process. The separation of the horn discovers a very vascular velvety surface, like that just noticed; and it has been observed, that horns become softened at their base before being shed, just as it has been before stated to occur in bones.

Mr. Hunter, too, whose great object was the investigation of the actions of life in health and disease, through the whole series of animated nature, did not fail to observe the analogy which the appearances presented by a tree, after a portion of its bark had been stripped off, bore to those observed in the exfoliation of a layer of bone. Accordingly, the preparations illustrating the subject of exfoliation of bone in the Museum are preceded by three others, Nos. 327, 328, 329, exhibiting an analogous process in wood, viz. the separation of the surface of the wood which has perished after the removal of the bark which covered it, just as a lamina of the walls of a bone will separate after a piece of its periosteum has been stripped off. [The preparations and drawings were shewn in illustration.]

In every one of its principal stages, therefore, the process of the exfoliation of dead bone is but the repetition of that of the separation of a slough from soft parts. In both may be recognized—1st, increased vascularity in the contiguous parts; 2dly, the groove between the dead and living parts; 3dly, the granulations from the surface exposed by the removal of the dead portion.

In the cases where a part of the inner surface of the walls, or of the cancellous texture, has died, it becomes, after exfoliation, imprisoned in the interior of the medullary cavity [as in the specimen shewn]; and in the case where necrosis of the whole shaft of a long bone is succeeded by the formation of a new bone, the former will be inclosed in the latter—encased, as it were, in the new shaft which has formed around it.

Now it is a question on which much discussion has lately taken place, whether, when the dead bone is thus completely separated from the living, but imprisoned in

it, it can undergo further changes; *i. e.* whether the absorbents in the living parts around it can act upon and remove it away. Of the absorption of dead bone not yet separated from the living there can be no doubt, for it occurs so often to our view. It may be seen in cases of the following kind:—A portion of tibia has perished from violence or other cause; the skin covering it is destroyed; it is exposed to the atmosphere, and becomes of a dark brown colour. As it is watched from day to day, granulations are seen rising from the surrounding parts, extending a little over, and in close contact with the dead bone. If a little bundle of them be lifted up, they are seen actually imbedded in excavations of the dead bone, which, not having been present before the granulations grew over the dead bone, can only be referred to their power of absorption. Another case which Mr Stanley related was this:—A gentleman had a large portion of the walls of the tibia perish from syphilitic disease. The dead bone exposed became dark brown, and had undoubtedly perished. One day a point of florid granulations was seen on the surface of the dead bone, in its very centre, and unconnected with the surrounding soft parts. On touching these with a probe, it was found to pass readily into a minute canal, extending completely through the wall to the medullary cavity. The granulations arising from the medullary membrane had in fact penetrated the walls, which they had gradually absorbed. Each day, as they continued doing so, the hole in the middle of the bone became larger; and so rapidly did the process go on, that in a week the little finger could be introduced into the medullary cavity. Surely, too, the gradual absorption of the dead end of a bone, in cases of compound fracture, may be observed to be effected by the granulations of the surrounding parts; and certainly after amputation (as of the thigh), when the protruded bone has died, granulations may be seen rising up and surrounding; and at last completely encasing it; then the wound has healed, and the dead bone never again presented; it has been absorbed without any exfoliation of it.

One more instance, and this from Mr. Hunter's observations, may be quoted. It was the practice in his time to transplant teeth from the jaws of poor men into those of the rich: for a time the transplanted tooth was fixed, and seemed to have acquired a good adhesion to the socket; but afterwards the gum became painful, and there seemed to be a disposition to remove the intruded tooth; it loosened, and at last dropped out. But now it was found to have lost a part of its fang, which was complete when put in; and in the socket

granulations were seen growing from the bottom. [The specimens which Mr. Hunter had preserved of such teeth were shewn.]

These proofs are sufficient to establish the fact that dead bone may be absorbed *while retaining its connexion with the living bone*, as firmly as any one of the best ascertained facts in pathology. But when the dead bone is *completely exfoliated*, can the absorbents of the surrounding parts act upon it?—will it gradually be removed by them, or will it merely act as a foreign body upon them, irritating them, without the absorbents altering it? By reasoning, no difference would be expected; we could not think that the absorbents would act on it in one case and not in another, that the mere fact of the dead bone retaining or not retaining its connexion with surrounding parts, would affect the action of those parts upon it. But as a question of fact, can it be proved that the absorbents will act on a piece of separated dead bone? Mr. Hunter's views were in favour of this power of the absorbents, as expressed in his lectures. It has repeatedly been investigated by experiment, and hitherto it must be admitted with negative results, and the evidence for the possibility of absorption does certainly as yet fail of absolute proof.

It has been stated, on the best authority, that Sir W. Blizard tied a piece of bone which he had carefully weighed, in an ulcer in a man's leg, and that after a time, having removed it, it was found to have lost part of its weight, and was besides visibly altered on the surface in contact with the ulcer. But Mr. Stanley had repeated the experiment without obtaining similar results: pieces of bone were often placed by him on the surface of issues, to prevent their healing, but no action of the absorbents on them could ever be detected. Mr. Gulliver, of the Military Hospital, Chatham, has made similar experiments, and communicated the results to the Medico-Chirurgical Society: they all agree in showing the non-absorption of bone that has been completely separated from the living parts.

Thus much concerning removal of the dead bone. The next object of consideration is the reproduction of the new bone; a process equally interesting and extraordinary. By it we may often see the whole shaft of one of the long bones which had perished and become separated from the articular ends, completely replaced by a new bone, while itself is being removed by the absorbents; and this new formation, if not possessing exactly the form and characters of the old one, still constituting a perfectly good and efficient substitute for it.

In studying this subject, we must con-

nect with it that of the regeneration of bone generally, as when it is lost by disease or injury. The division of a bone by a cutting instrument, or by force applied to the external soft parts, has essentially the same effect—that of producing fracture; but the mode in which reparation takes place here is too well known to make it necessary to dwell on the details. A drawing was shown, of the tibia of a dog killed some time after that bone had been fractured by external violence. It exhibited the usual appearance of the provisional callus, as it is called, consisting of the deposition at first of fibro-cartilage, and then of osseous matter between the bone and periosteum, which completely surrounded the fractured part for some distance, both above and below the divided ends of the bone. In this specimen, the provisional callus was clearly seen to be deposited between the bone and periosteum, and was probably secreted by the vessels of the latter; and such is its situation in all cases where the fracture is unattended by great injury to the periosteum. In the further progress of reparation a similar deposition, first of fibro-cartilage and then of bone, takes place in the medullary cavity, for some distance above and below the fracture; and at last the broken surfaces of the walls of the bone become consolidated. Till this last process is effected the union of the fracture is not complete; and it may take place very late, for in a case which Mr. S. had examined, at St. Bartholomew's Hospital, the walls of a fractured tibia were found united only by a soft substance, though it was more than three months from the occurrence of the injury, and the limb had been enabled, by the strength of the provisional callus which held the parts together, to support firmly the weight of the body.

The extent of this provisional callus depends very much on the degree of irritation which had existed in the periosteum around the fracture; and Mr. S. had examined cases (of which he showed a specimen) where there seemed to have been none at all. In fractures of the cranium there is very little, and often no provisional callus; and when there is any, it is never seen on the inside of the skull, for which, of course, the sufficient reason is the compression such a formation would produce on the brain. When a fracture implicates only the cancellous texture of bone, it will unite without the formation of a provisional callus; and there is an evident advantage in this circumstance in cases where the fracture occupies the articular end, for then it would have interfered with the movements of the joint. From these facts it is evident that the formation of

the provisional callus is not an essential part of the process of union; and besides, it is impossible to say at all accurately when the union of fracture will be even moderately firm, for where the provisional callus has not been formed, such an union may not be attained till the end of the second or third month. Such cases are not unfrequent in which, in young and perfectly healthy subjects, the union of a fractured tibia is not effected with firmness sufficient to permit the weight of the body to be borne upon it before the third month, or even later.

There are certain facts which may be considered as convincing evidence that the failure of union in some cases of fracture, especially of the neck of the femur within the capsule of the hip-joint, is not owing merely and exclusively to deficient vitality in the parts. Of such facts Mr. S. produced an example from the Hunterian collection, in which a portion of the walls of a femur had been broken completely off, and had been turned half round, so that its outer convex periosteal surface was turned towards the medullary cavity; yet in this strange position it had firmly united to the rest of the bone. Another somewhat similar specimen, from the museum of St. Bartholomew's, was shewn, in which, by a fracture of the skull which occurred two years before the death of the patient, four pieces of bone were completely detached; yet these, too, had become completely reunited to the contiguous bone. Of the same class are those cases in which a portion of bone removed by the trephine from the skull of an animal has, on being immediately replaced, become firmly united, of which Müller had seen an instance in an experiment performed by his master, Walther, of Berlin, and of which Maunoir had made a successful imitation on the skull of a man. A very interesting series of skulls was also referred to in the Hunterian collection received from Germany, and which it was probable had belonged to the soldiers engaged in the wars of the Great Frederick. They all exhibited sabre cuts of immense extent, which had firmly united; and in one the sabre, passing vertically through the occiput, had entirely detached a large piece of the bone, which had slipped down, and united to the part of the skull some way below. A remark forcibly suggested on looking at these skulls was, that they were striking examples of good surgery, though they of course did not indicate whether its excellence had consisted in its being mainly active or passive.

To pass now to the consideration of the regeneration of bone under other circumstances:—If in a living animal a portion of one side of the walls of a bone be re-

moved without much injury to the medullary texture, the lost bone will be reproduced by the vessels of the medullary membrane. [A specimen, and a magnified drawing of it, from an experiment which the lecturer had made on the tibia of a dog, were shewn in illustration of this fact.] An illustration of a similar circumstance had occurred in the human subject. A portion of the ulna, full four inches long (which was shown) had been completely detached from the rest of the bone, without the fracture extending through its entire thickness, in a middle-aged man, whose arm had been caught in machinery. The vacant space its loss had caused was filled up by granulations, produced chiefly from the medullary texture; and from the appearance of the arm on the healing of the external wound, there was little doubt these granulations had become ossified.

If, in a living animal, a portion of the whole thickness of a long bone, *with its periosteum*, be removed, reproduction is not to be expected. The constant motion of the ends of the bone on each other, and their friction against the surrounding tissues, tending less to produce granulation in the vacant space than the formation of a membranous sac and the production of a false joint. An example in which this had been the result of the experiment on the radius of a dog was exhibited. In this specimen was very interestingly shown an instance of the principle of compensation, produced by what Mr. Hunter would have called the stimulus of necessity. The ulna was considerably thickened exactly opposite the part in which the radius was deficient by the removal of the portion of it in the experiment, so that the limb had still been strong enough to serve the double purpose for which it is intended in animals—viz. as an instrument at once of support and of prehension. But in man, in consequence of the quietude in which the limb may be maintained, union will take place between the ends of a long bone, which are left with a space between them by the removal of a portion of the bone in its entire thickness. This is demonstrated in cases of compound fracture, where a portion of the bone has been lost either by removal by the saw or by necrosis and exfoliation. Here the new osseous matter which fills the vacant space is produced at once by the vessels of the medullary membrane, by those of the surrounding cellular tissue, and by those of the walls of the bone: these all produce granulations that are converted first into fibro-cartilage, and at last into bone.

That the piece of the cranium which is removed by the saw or trephine should not

be reproduced is easily intelligible; for here one of the three sources of the reproductive vessels is wanting—viz. the surrounding cellular tissue, which is deficient on both sides of the cranium alike, presenting in neither that sufficient matrix of active vessels which exists around the walls of the cylindrical bones, and especially around the long bones of the limbs, which are the most frequent seats of fractures. Hence it is, therefore, that the effect of reproduction being confined almost entirely to the vessels of the bone itself (for it is found that those of the cranium take but little share in it, and those of the dura mater none at all), the hole made by the trephine is very rarely filled up by bony matter. In some very uncommon instances it is, and these occur especially in children in whom the injury has occurred previous to the complete growth and organization of the skull; and in such Mr. S. had occasionally seen the vacant space almost completely obliterated. In examining the skulls of those who had died long after they had been fractured, the efforts of reproduction are confined to the formation of osseous matter on the edges of the bone in simple fractures, so as to consolidate the separated portions, but are not found sufficient to have repaired the compound fractures of it which had been attended with loss of bone.

In the next lecture, the reproduction of bone under the different circumstances of necrosis, and other affections, will be considered.

ERRATUM.—In Mr. Stanley's last (3d) lecture, the representation of bone swollen from inflammation was from a case of Mr. Arnott's (of the Middlesex Hospital), not of Mr. Arnold's.

ON THE DISSOLUTION OF GRAVEL AND STONE IN THE BLADDER.

By A. CHEVALLIER,

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Translated from the French,

By EDWIN LEE, M.R.C.S. &c.

Author of "An Account of the Watering Places of the Continent;" "Observations on Continental Medical Institutions and Practice," &c.

[Continued from page 465.]

VII. *On the Action of Magnesia on Gravel and on the Urine.*

HOME, in his "Researches and Observations on the Functions of the Stomach," announced that it would be

possible to prevent the diseases caused by calculi, by introducing into the stomach substances capable of opposing the formation of uric acid; and that this method of treatment would be more advantageous than that which consisted in dissolving this acid after it was formed. He consulted Mr. Hatchett with respect to the substance which he thought the most likely to produce this effect, and which, from its insolubility in water, would be able to remain in the stomach until it entered into combination with some acids, and was carried into the duodenum with the food.

The reply of Mr. Hatchett answered the expectations of Sir Everard Home, and his opinion was confirmed by experience, which shewed that whenever a larger quantity of uric acid was formed, this formation was lessened in a much higher degree by magnesia than by the employment of alkalies, even in a large dose. Home having engaged Mr. Brande to join him in trying this plan of treatment, they considered that the results which they had obtained were sufficiently important to submit to the Royal Society of London; and at the meeting of the 22d February, 1810, they brought forward four cases selected from among many others. These cases were intended to offer examples of the principal varieties of disease caused by calculi.

CASE. — A man, sixty years old, who habitually drank acid liquors, voided small calculi in the form of gravel of a red colour; sometimes the gravel was in crystals, of a larger size, entirely composed of uric acid, and deposited at the bottom of the vessel.

Three drachms of subcarbonate of soda dissolved in water strongly impregnated with carbonic acid, and taken in three doses in the course of the day, appeared to produce no effect on the formation of uric acid; the red sand was deposited as usual. The vegetable alkali was then tried. Three drachms of subcarbonate of potash dissolved in water, impregnated with carbonic acid gas, were administered in the same manner; the deposition of uric acid was a little diminished, but although the use of the remedy was continued for more than a year, with some short interruptions, the patient still voided small calculi.

This extraordinary disposition of the individual to form uric acid, and the

non-success of alkalies, induced Messrs. Home and Brande to seize the opportunity of judging by comparison of the effect of magnesia. They began by carefully ascertaining the quantity of acid contained in the urine; they then gave the patient fifteen grains of magnesia three times a day, in an ounce and a half of infusion of gentian; at the end of a week the quantity of uric acid was lessened, and three weeks afterwards it was only occasionally found in the urine. The exhibition of the magnesia was continued for eight months, during which period there were no more calculi, nor any sediment in the urine; the patient, who was subject to sickness and uneasiness in the stomach, was also relieved of these symptoms*.

Mr. Brande considered that he might conclude from these cases, that magnesia, taken internally, acts in many respects in a different manner from alkalies, when there exists in patients a disposition to the formation of a superabundant quantity of uric acid.

In reporting here the cases published by Brande, we must say that we do not entirely adopt his opinion, and that our experiments have proved to us that the alkaline carbonates are more efficacious than magnesia. We do not know to what circumstance this difference is attributable, but we have made experiments several times on ourselves, and hence found that the uric acid which was in excess in the urine, passed into the state of alkaline urate from the employment of subcarbonates, not only when taken internally, but also by the use of baths, in which the carbonates of soda and potass were dissolved.

VIII. *On the Action of Acids on Vesical Calculi.*

Some practitioners have had the idea of employing acids to dissolve stones in the bladder, but these attempts, made without discrimination, produced results which could not be depended upon, as the calculi, which are soluble in alkalies, and which are very numerous, are insoluble in acids.

Among these practitioners may be mentioned—1. Bajer, who recommended the use of oxalic acid—one the most unfit for the purpose, as it

* The other cases being very similar to the above, in shewing the effects of magnesia after the failure of alkalies, the translator has not deemed it necessary to insert them.

might have caused the formation of the most insoluble kind of calculi—viz. the oxalate of lime. 2. Tolet recommended the administration of citric acid, which was tried without success by Pisanellus and another physician. 3. Cornett, who advised the employment of diluted sulphuric acid; but it was proved that this acid did not dissolve urinary calculi, as was pretended.

The experiments hitherto made appear to demonstrate that carbonic acid may have a certain action on vesical calculi. Thus Mascagni says that he knew Seltzer water had been successfully employed for calculous complaints; that having taken some several times, he derived advantage from it. It is proved that the waters of Contrexeville, which contain carbonic acid gas, have relieved many patients, who, it is true, drink a great quantity of the water. Brande quotes the following case in proof of the action of this substance:—"As it had been observed that the effects of soda upon the urine were modified by the presence of carbonic acid, the following experiment was made, in order to prove whether this acid really produced any sensible effect on urine in a state of health. Twelve ounces of water strongly impregnated with carbonic acid, were given to a patient fasting, at nine o'clock in the morning, and eight ounces of urine, which he passed an hour afterwards, were examined. This urine appeared to be in its natural state, but in comparing it with ordinary urine, it was found to contain a superabundant quantity of carbonic acid, which escaped in the form of gas, either by a low heat, or when placed under the receiver of an air pump."

A patient, from whose bladder a large calculus, composed entirely of phosphates, had been extracted, and who could not bear more powerful acids, took water impregnated with carbonic acid, which agreed well with his stomach. On examining his urine it was perceived that the phosphates which he voided were in a state of solution; but after he had discontinued the water, the phosphates presented themselves in the form of a white sand. The result of this experiment may serve to explain how phosphatic calculi become diminished in size when they are exposed to the action of the Vichy water, which contains a very large proportion of carbonic acid.

A fact published by Dr. Marcet points out the advantage that may be gained by the employment of acids. A patient went from Birmingham to London to consult Messrs. Astley Cooper, Baillie, and Freeman, for a high degree of irritation which he experienced in the bladder and in the urethra, accompanied with frequent inclination to void his urine, and copious sediments of white sand, mixed with shining crystalline particles; the quantity of this sediment was about eight or ten grains each time he made water. He was put on a course of the hydrochloric acid—five drops, sufficiently diluted, three or four times a day. After a few days there was a mitigation of the symptoms, and the urine began to deposit uric acid, in the form of a red sediment. The same treatment was continued for about two months, and during this period the urine contained no sediment except now and then a little uric acid. At present, says Mr. Freeman, in communicating this fact to Dr. Marcet, who was then publishing his work on Calculous Affections, the patient's health is considerably better, and his urine contains no calculous deposition. Dr. Marcet adds, that he could easily adduce several examples of this kind.

We have had cognisance of a similar fact. A patient, who passed considerable quantities of phosphate of lime, was treated by a drink, prepared with nitric acid, and subsequently with phosphoric acid. Since this treatment the patient passed phosphate of lime mixed with uric acid, and uric acid; yet, notwithstanding the doses of acid exhibited, the urine could never be maintained in an acid state,—it was acid in the day time, but in the night it resumed its alkaline properties.

Acids, properly diluted, may in certain cases be used as injections into the bladder, by means of the catheter, with a central partition, forming two tubes. M. Magendie had a case in which he employed water, acidulated with sulphuric acid, which caused the expulsion of a considerable quantity of detritus, with cessation of the pain, incontinence of urine, and suppuration, which previously existed.

This fact shows, that under some circumstances calculi of oxalate of lime, which resist the action of alkalies and alkaline carbonates, might, in our opinion, be attacked by acid solutions intro-

duced into the bladder by means of the above-named catheter.

Fourcroy thus expresses himself, in speaking on the employment of acids. Nitric or muriatic acid, sufficiently diluted, and when not more acrid than the urine itself, softens and dissolves very speedily stones of calcareous phosphate and of ammoniaco-magnesian phosphate. These substances, in fragments or in laminæ, when suspended by a thread or a hair in similar fluids, dissolve, become lighter, float, and only leave in their stead transparent flakes, which float on the surface.

With respect to calculi of oxalate of lime (mulberry calculi), they are more difficult to dissolve: they soften, however, and dissolve almost entirely, in diluted nitric acid, with the exception of an animal matter, of a brownish colour; they require, however, much more time for dissolving than the phosphates. Fourcroy said that these fluids might be injected into the bladder, that they might act on calculi and cause their dissolution; but he also said that the greatest difficulty consisted in the necessity of rendering the action of the liquid harmless upon the bladder, at the same time sufficiently powerful to dissolve the calculus. The result of M. Magendie's experiment is here of great importance.

Fourcroy feared also that the mixture of the urine with the solution would render it too weak to act upon the stone. This inconvenience may be obviated by using the catheter above described.

IX. *On the Action of pure Potass and Soda.*

Pure potass and soda, dissolved in water, have been recommended as lithontriptics; and Fourcroy and Vauquelin (who published a work on Calculi, which formed an epoch in the science), say that the lixivium of pure potass or soda, diluted with water to such a point as to be taken into the mouth or even swallowed without inconvenience, softens, melts, and dissolves in a few days small calculi, and even fragments of large calculi, which are kept suspended in it by means of a thread. These calculi are soon perceived to diminish in size, drop from the thread, and sometimes become white on the surface. Calculi of urate of ammonia present the same phenomena.

Caustic soda, the lixivium of soap-boilers, has also been employed in cal-

culous affections, and formed the basis of a remedy formerly in vogue, termed the lithontriptic remedy of Jurin and Chitticks. This liquor has also been made the subject of observation by Cheselden, Baylies, and Hales, who showed that when dry this lixivium lost its activity. Brande, in his Observations on the Effects of Magnesia in opposing the Active Powers of Uric Acid, has also published some trials made with soda.

A patient took in the morning, fasting, two drams of subcarbonate of soda, dissolved in three ounces of water, and immediately afterwards a large cup of warm tea. After six minutes he passed about an ounce of urine, six ounces more in twenty minutes, and two hours subsequently a larger quantity. The first portion of urine became cloudy after ten minutes, and deposited a good deal of phosphate from the action of the alkali: it restored the blue colour to litmus paper which had been reddened by vinegar. The alkali, says the author, was not then in sufficient quantity to saturate the acid and carry off the phosphates; it was nevertheless in excess, and the urine was alkaline. The urine voided after twenty minutes also presented a cloud of phosphate, but the transparency of that which was voided two hours afterwards was not affected.

Thus the effect of the alkali on the urine was carried to its maximum probably in less than a quarter of an hour after it had been received into the stomach, and had altogether passed away in less than two hours.

Two drams were dissolved in eight ounces of water strongly impregnated with carbonic acid, and given, as in the preceding experiment, to a person who allowed himself to be operated upon. The urine was voided in about the same time.

The separation of the phosphates was slower and less sensible. There was two hours afterwards a slight sediment, principally composed of phosphate of lime; the surface became covered with a pellicle formed of the triple phosphate, which occurred in consequence of the disengagement of the carbonic acid which previously held this salt in solution,—a phenomenon which is not uncommon even in the urine of healthy persons.

It appears proved, that the carbonic

acid passes from the stomach into the kidneys; for when alkalies have been taken in water strongly impregnated with this acid, the pellicle has been uniformly produced, and is more evident, and in greater abundance, than under any other circumstances.

The same experiments, made by substituting potass for soda, have produced results as similar as could be expected in investigations of this nature. Fourcroy presented the following note to the Société des Annales de la Chimie.

"I have seen the employment of pure alkali succeed in gravel. This is the manner in which it is employed:—A few drops of the lixivium of caustic soda in a cup of weak linseed tea are taken in the morning; this drink is continued during several months, the proportion of alkali being gradually increased, or until no more gravel is voided. The urine of the individual must be tested. It first reddens blue colours, and subsequently turns them green. This change is a proof of the action of the remedy."

Marcet, who believed that alkalies could have but little action on large calculi already existing, when these alkalies were introduced into the alimentary canal, says, that it is proved in many cases that they may be advantageously employed to counteract the predominant diathesis. He also adduces a case to prove that a patient with stone was relieved by alkalies.

X. *On the Action of Carbonate of Potass on Gravel and Urinary Calculi.*

The subcarbonate of potass has been employed as a lithontriptic by a great number of practitioners, especially by Mascagni, who used it successfully in his own case, which he has reported in the *Recueil de la Société Italienne*, vol. xi. Dr. Stiprian Luiscius, of Leyden, has also made a successful application of the works of Fourcroy and Vauquelin on calculi.

"Carbonate of potass," says Luiscius, "is useful in calculous affections. When there exists in the urine an excess of uric or of phosphoric acid, or of both these acids at the same time, the potass then combines with the acids, allowing the carbonic acid and the ammonia to escape. The same means is equally suitable when there is an excess of urate, which may be known by pouring

an alkaline lixivium into the urine or on the calculi; which emit a strong ammoniacal odour: the calculi ought then to dissolve entirely. When there is an excess of phosphate of lime, carbonate of potass cannot affect it; recourse should then be had to acids. Calculi which are composed of this substance become black on exposure to fire, and only lose, with their water of crystallization, a little animal matter, emitting an odour of burnt horn.

"Carbonate of potass does not act on calculi formed of the combination of phosphoric acid with ammonia, or magnesia. It has more action on the compounds of oxalate of lime, resembling mulberries, and having a compact texture, which renders them susceptible of being polished like ivory.

Guyton Morveau, who has given an account of the work of Luiscius, did not adopt his opinion that potass effects more or less completely the dissolution of the animal matter, and thus prevents the accidents arising from the combination of gravel with mucus. We believe, from the experiments which we have made, that the waters of Vichy act on phosphatic calculi, by depriving them of the animal substance which they contain, and which gives them a cohesion which they do not retain when this substance is removed, as the calculi then fall to pieces; and the circumstance that phosphatic calculi which have remained in Vichy water become friable, further corroborates the truth of this opinion.

Other practitioners have likewise administered carbonate of potass in gravel; and Dr. Nath. Hulme has related the case of a man, seventy-two years of age, who was cured of the stone by the internal employment of subcarbonate of potass. C. Blanc added opium to the potass, and gave it in doses of from one to two drachms, either in water, or in lime-water. Magendie, who has studied with particular care the influence of regimen on the formation of gravel, and who has published an excellent work on the subject, relates cases, proving the success which he has obtained from the employment of carbonate of potass. M. Magendie, in relating these cases, after having spoken of regimen, says, that it very rarely happens that the patient can be brought to submit strictly to this kind of life, unless the pain be such as to interrupt the enjoyments of the table, and remind him of his

wavering resolutions. M. Magendie says also, that he has given to several patients affected with calculous complaints, and with satisfactory results, the bicarbonate of potass, not as an auxiliary, but as a principal means of cure, in the proportions of half a dram daily, in ten ounces of water, afterwards of one dram daily, in twenty ounces of water, and subsequently of two drams in the same quantity of water.

M. Itard made known to the Académie that he had cured a patient with stone by bi-carbonate of potass, given in the dose indicated by Mascagni. He said at the same time, that he had given this salt in other cases without success.

The following are some of the prescriptions used as lithontriptics:—

Lithontriptic solution from the Dutch Pharmacopœia.—Subcarbonate of potass 19 drachms, 12 grains; water, 15 ounces. One to two scruples of the salt to be taken three times a day.

Alkaline tisane of Mascagni.—Subcarbonate of potass, two drachms; water, two pints. To be taken in the twenty-four hours, by small spoonful at a time, sweetened with syrup of gum.

Lithontriptic potion (Ellis).—Carbonate of potass, from 10 to 12 grains; Seltzer water, 6 ounces. To be taken three or four times a day.

[To be continued.]

OBSERVATIONS

ON THE

CHARACTER AND TREATMENT OF THE SPOTTED FEVER,

AT PRESENT EXISTING IN ST. GILES'S AND
THE NEIGHBOURHOOD.

BY JOHN WILSON, M.D.

Physician to the Middlesex Hospital.

IN the Medical and Physical Journal for April 1832, we published an account of a spotted fever then prevalent, under the head of "Cases of Fever, with eruption resembling measles, and early debility." Most of the cases we had then came from St. Giles's, and many died soon after admission into the hospital.

In the same quarter there is now a similar spotted fever prevalent, which has been equally fatal.

We shall begin by giving three fatal

cases which came under our care, with the result of their examinations, and the reasons which induced us to change our mode of treatment; and then give a general outline of this latter treatment in nineteen cases; with some general observations on the morbid appearances.

Mary Hennagaw, about 40. April 13th: brought in blue in the face; breathing very laborious; expirations to inspirations as four to one; ronchous, sibilous, and crepitous sounds everywhere. Pulse scarcely to be felt; extremities cold; scarcely sensible. Had influenza when snow was on the ground at Christmas, and has never rallied since; was a stout, strong, and healthy woman before.

Died in the evening.

Examination.—Body covered with port-wine stains; the most emaciated object that could be seen; not a vestige of cellular tissue anywhere streaked with fat, so that the muscles could be finely dissected with the fingers. The blood nearly all fluid; lungs gorged, the "eperons" at the angles of the bronchi especially, as also the whole mucous membrane highly inflamed, and of a mahogany colour. No other morbid appearance.

Catherine Foley, admitted May 24th, aged about 40. Ill a week, and said to have had profuse uterine hæmorrhage for six days; complains of pain in the head and limbs; tongue dry and brown; pulse scarcely to be felt, but rapid; body spotted.

Had no hæmorrhage after admission, and continued insensible during the whole time after, and died at the end of four days.

Examination twenty-four hours after death—A large quantity of soft pitch-coloured coagulated blood was found to be extravasated behind the peritoneum lining the cavity of the pelvis, reaching in front as high as the top of the pubis, extending behind between the peritoneum and aponeurosis at the transverse muscles, as high as the kidneys; and on each side up to the superior spinous process of the ilium. Uterus, bladder, and vagina, appeared quite healthy, shewing no cause for the hæmorrhage; no ruptured vessel could be discovered. There was no external mark of violence. Blood fluid and black.

John Waters, aged about 30. April 10th: brought from St. Giles's Workhouse, where he had been taken two days before. When admitted here he was unable to give any account of his symptoms. Body warm, covered with purple spots like rubeola, only much darker; face flushed, but not hot, more like the livor of pneumonia; ronchous and sibilous sounds throughout both lungs. Tongue dry and brown; bowels rather purged; pulse 90, and steady.

To have his head shaved. A warm bath.

Hydrarg. cum Cretâ, gr. v. every six hours, with a saline draught.

13th.—Seemed much improved last evening; faculties more clear; tongue becoming moist; bowels quiet. But suddenly he began to sink this morning, and died rapidly.

The following symptoms attended his immediate dissolution:—His body being covered with spots was universally very warm; skin moist; pulse 80; facies Hippocratica. A profuse, instantaneous, and universal sweat attended his last breath; the expirations an hour before death were six times the length of the inspirations; pulse continued beating about a minute after his last breath, when the pulse ceased. The muscles of the hands and wrists were shaken with a tremor, as an animal when suddenly frightened, or hardly driven.

Examination, 16 hours after death.—The whole body still warm, and covered with port wine-like stains. The cavities, particularly the thorax, smoked when laid open; all the blood was quite fluid and black, staining the lining membrane of the heart and veins. The lungs were gorged with blood, and in some parts it was extravasated into the tissue in lumps, which sunk in water.

A large quantity of clear fluid in both lateral ventricles of the brain. Mucous membrane of the intestines healthy; as well as all other parts of the body.

This examination nearly corresponded with other cases, not our own, which we saw examined, all of which had black fluid blood, with more or less engorgement of the lungs.

As the usual treatment in fever had been unsuccessful, it gave no encouragement for continuing it, so we reflected what other could be substituted with a probability of a better chance of success. Finding that the blood in all the cases was fluid, and of a black venous colour, and knowing that we could

change the dark venous to a bright arterial coloured blood, we determined, should we have any more similar cases, to give Dr. Stevens's saline treatment a fair trial, but at the same time not to abandon the use of the warm bath, which we are in the habit of giving to all fever, and every other case, on admission, excepting some head or heart affections: the warm bath, in the West India fevers, Dr. Stevens found to be injurious.

Now, since the 4th May till the 16th June, we had 19 cases, all of spotted fever, admitted under us, 7 of whom were women, and 12 men; 3 of the women and 4 of the men came from St. Giles's Workhouse. The following is a summary of all these cases taken collectively.

General symptoms on admission.—Countenance dusky; the worst had the livor of pneumonia; one more inclined to the purple of asthma or emphysema, without cough or expectoration. Spots more or less over all the body, especially the trunk, varying in degree and extent; some faint, like a dark marked case of measles; in others the spots were larger, more confluent, and of a darker hue, mottling the trunk and extremities in a great variety of forms and shades. Pulse generally below 100; stupor and drowsiness, but sensible on being roused for the most part. Urine diminished; a few had it turbid, mostly deep coloured. No purging. Skin hot and dry; tongue dry, brown or red, often with sordes.

Now all the 19 cases, to which these symptoms apply in a general way, were on admission put into a warm bath, and well washed with soap, had their heads shaved, and to which cold lotion was occasionally applied; afterwards all had Dr. Stevens's powder which he gave in cholera, viz.

Carbonate of Soda, 3ss.; Muriate of Soda, ʒj.; Chlorate of Potass, gr. vj.

This was repeated every six hours in a cupful of water, or more if they liked. The bath and powder applied to one and all. Some, when they became insensible or delirious, and refused the powders on account of their taste, had in their place, by way of common drink, a ʒj. of the chlorate of potass in a quart of water every twenty-four hours; and these salines were continued till convalescence.

Remarks during the progress of treat-

ment.—The warm bath gave comfort and general relief, followed by perspiration in bed, and which continued after the powders were given. None objected to the powders while sensible; some expressed relief from them, and one man was so desirous of them that he had them for some days every four hours. The powders did not irritate the stomach, and acted sufficiently on the bowels, promoting, at the same time, the secretions of the skin and kidneys; and the spots on the body, from a livid, became of a brighter hue,—some of a bright red. The urine for the first days was acid, clear, and dark coloured; in some afterwards it became alkaline, in others neutral; in all it increased in quantity, and became more pale, but always clear, and continued so during the convalescence; after the powders had been stopped, it again became acid. The bowels in almost all were regular; perhaps about half a dozen of the worst cases, in the worst stages, had diarrhoea, and that was only since the weather had become hot,—some of which ceased after changing the powders for the chlorate of potass drinks; the other cases, which continued more obstinate, were checked after two or three aromatic draughts. In all the liquid motions were yellow, though at the same time the patients might be insensible to their wants, and unconscious of all around them; the mouth being covered at the same time with black sordes: one that had not had a motion for two days, in the morning of the day she died had what is called a healthy motion.

Four or five others, again, whose bowels had not been sufficiently acted on by the salines, had a teaspoonful or two of castor oil.

As far as medicine was concerned, this was the only deviation, if it can be so called, from the saline treatment.

Five or six were obliged to be strapped in bed, on account of their delirium; some others laid quietly, and moaned, or groaned. The pulse generally kept below 100; in two of the worst cases, which died, it was at 140.

Two-thirds had the sense of hearing impaired; three or four were as deaf as a post. In some of the worst, the skin was so hot as to require frequent sponging with cold water.

The worst case that recovered was one of our own nurses, who laid more than a week in a state of delirium and

strapped down occasionally, and during the whole of that time she passed all under her; with thick black sordes, and inability of protruding the tongue; when spots the size of the finger's end appeared and disappeared over all the body at different times. Then she refused the powders, but took the chlorate of potass drink, and sometimes as much as three pints of porter daily, and some wine. Afterwards she took to sleeping for three days and nights, and was obliged to be roused to give her drinks: after which she became convalescent, and rapidly recovered. This, to us, appeared the most hopeless case we had ever seen recover, and had no complaint whatever afterwards, excepting hunger.

Evidences of recovery were a bright eye and clear countenance; increase of urine; moist skin; bowels acting regularly every twenty-four hours; sordes disappearing. These changes were generally preceded by sleep of two or three days and nights, after which sleep recovery became secure. The port-wine stains and rubeoloid spots changed from a dusky to a brighter red colour, and then gradually, but slowly, disappeared. After convalescence was established, we have not had one relapse, and all made a rapid progress to recovery, such as we never witnessed before, and not followed by any affection of the head, chest, or abdomen: then the salines were stopped, but no other medicine was afterwards given.

What is remarkable in this stage is their complexion, which so soon assumes that of health; also their strong craving for food, which we were afraid at first to indulge, but they were so clamorous as to cause us to change our system of dietetics, and indulge them with meat and porter very much sooner than we ever thought of doing before.

Wine and porter were given to some of the worst cases during their illness, along with beef-tea.

Two of the above cases died. We shall now give these two cases and examinations; of the rest, who have not left the hospital yet, all are quite convalescent, but till to-day (26th June) the recovery of one of the worst has been very doubtful, but he is to-day in the second day of the sleeping stage, and may now be looked upon as safe.

Mary Warren, brought from St. Giles's workhouse June 13th, aged 19,

said to have been ill a fortnight, began with shiverings and pains all over. The person who brought her knew nothing of her case. Tongue dry and red, skin spotted with dark tints.

Two days after, became much purged; black and dry sordes of the mouth, with inability to protrude the tongue. Skin hot and dry; pulse 140; objects to the powders; always delirious, and obliged to be strapped down.

20th.—Slept last night; had a healthy motion this morning, the only one for two days. Spots gone since yesterday; became quite sensible this morning, and continued so till the evening, when she was purged sixteen times. Motions yellow. Died at three next morning, having had the rattles for ten hours before death. At three different times towards the last her face became red, then purple, and lips pale.

Examination twelve hours after death.—Brain firm and natural. Lungs congested, and in parts were some dark firm masses, something like pulmonary apoplexy, only they were not circumscribed: some of the pieces sink in water, and this character gradually becomes less marked in approaching towards the more sound parts of the lungs.

Heart very small; blood very fluid, and of a bright *red* colour; lining membrane of the heart and veins of a natural colour, unlike the dark mahogany colour found in the other cases, where the blood was black, not having had the saline treatment.

Gall bladder distended, with thick dark bile; valvulæ conniventes tinged of a bright orange colour; mucous membrane softened in some parts, and could be scraped off with the finger nail.

Mary Larkins, aged 24, single, brought from St Giles's workhouse June 15th, where she went yesterday; ill a week; taken unwell in the street when buying some bread, and seized with blindness and deafness which continued for five minutes; then she was taken home, when she first felt a pain in the head, which has continued ever since; has had leeches applied to the temples with relief.

Tongue now brown, furred, and dry; mottled rubeoloid spots over all the body, very marked, but does not know how long they have been out; eyes suffused and bloodshot; pneumonic

livor of the face; wanders; skin very hot.

Slept all night after the bath, and felt much better next day; pulse 125, skin moist. The following day sickness came on, when the powders were stopped for a day, after which severe purging followed, countenance became more dusky, and eruption more general.

20th.—Small bright red spots appeared on the legs and thighs, which continued till her death (purpura hæmorrhagica); pulse 140; stupor, but sensible; tongue black and chapped; purging severe; motions very yellow, but which were black when she came in. Died the 22d.

Examination twenty-nine hours after death.—Port-wine stains over all the body; back and neck uniformly tinged; purpura hæmorrhagica over the legs and thighs remaining. Some slight false membrane on the lungs, and a very slight false reticular membrane, extending between two lobes, having red vessels, apparent to the naked eye, running in it. Lungs much gorged, and again the appearance like diffused pulmonary apoplexy, containing hard lumps, black, non-crepitous, but not sinking in water this time.

Blood a very bright *red*, and very fluid; lining membrane of the heart and veins natural in colour; some patches of the glandulæ aggregatæ enlarged: brain normal.

Now out of the nineteen cases of saline treatment, two have died, and seventeen are convalescent, or have recovered. Both the two that died came from St. Giles's workhouse, the one a week, the other a fortnight, after the invasion of the fever. What chance of success they offered to any treatment, every one can judge for himself; they had the powders and the chlorate of potass drink just as they could be prevailed upon to take them, but their effects were very marked on the bright *red*, but very fluid blood found on examination, and so very different from the dark fluid blood found in all the other preceding cases which had not had the salines. But we did not want even these examinations after death to shew the effects of the saline treatment, for it became visible in all the living; for their spots became less dusky, and more bright, under the progress of treatment, and then gradually subsided, leaving them with a clear and healthy-looking

countenance, shewing that the blood had undergone the same change of colour in the living as we found it had in the dead.

Now if the fluid state of the blood be the same in the living as we found it in the dead, in regard to its fluidity or want of fibrin, may not their great desire for food during their convalescence, when all the secretions are going on well, be perhaps caused by nature wanting to give the consistence, or fibrin, to the blood, which it has been deprived of, as it had before been deprived of its red colour?

Again, what were the lesions evident to the eye? they were the spots on the bodies of all. The black puddly coagulated blood found behind the peritoneum of the female Foley, and who was said to have had profuse uterine hæmorrhage for six previous days, and like all the others, was spotted.

Next the general engorgement of the lungs; and latterly, since we have paid more attention to that morbid appearance, and found its general appearance so like in one part to pulmonary apoplexy, that is, in its central parts; but in pulmonary apoplexy the black solid portion is generally uniform and circumscribed by a portion of the lung in a healthy state; in some of our cases we found the black mass tolerably defined at its circumference, though the contiguous parts of the lung were also more or less gorged.

Now may we not infer that the cause of the cutaneous hæmorrhage, or spots on the body, as well as the appearance in the lungs, like non-circumscribed pulmonary apoplexy, were both caused by the thin fluid blood becoming extravasated.

PATHOLOGICAL OBSERVATIONS

ON

ULCERATION OF THE CERVICAL VERTEBRÆ.

To the Editor of the Medical Gazette.

SIR,

THE following remarks are principally intended to shew, that in most cases where ulceration of the cervical vertebræ occurs below the fourth, the pain is

confined to the upper extremity or extremities, and does not affect the head. I hope that you will find them of sufficient importance to induce you to give them a place in your valuable journal.

I am, sir,

Your obedient servant,

T. J. RODERICK.

11, St. Thomas'-street, East Row,
June 22, 1837.

CASE I.—A weaver, aged 50; has never been of a robust habit, and is subject to palpitation of the heart. Twelve months since he had an attack of pain in the neck and shoulder, on the right side, apparently rheumatic, which in a few weeks afterwards extended throughout the whole of the upper extremity, and has continued until the present time. He has frequently been unable to stand erect on account of the aggravation of the pain, and unable to sleep for more than five minutes at one period. At present he has severe pain in the shoulder, arm, and forearm, which is considerably increased on grasping the hand; has no pain in the head; complains of a good deal of difficulty in swallowing.

This man lived for upwards of two months after this time, continually complaining, until he died, of very severe pain in the lateral part of the neck, shoulder, and arm, on the right side; also sickness, and pain at the scrobiculus cordis. He was frequently asked if he had pain in the head, and his answer always was that he had not.

Autopsy.—The pleural cavity presented adhesions, which were more numerous on the right than the left side: both lungs contained a number of tubercles. At the apex of the right lung there was a vomica of considerable size, which appeared to have communicated with the diseased vertebra. The body of the last cervical vertebra was enveloped in a carious ulceration, completely denuded, and its intervertebral substance destroyed. The adjoining surface of the sixth was similarly affected by ulceration; and an abscess, which contained about an ounce and a half of matter, was situated before it. The theca vertebralis was thickened, and communicated with the caries. The spinal marrow was free from any marks of compression.

CASE II.—A bookseller, æt. 26; has

always enjoyed pretty good health, and lived temperately. After being exposed to cold he was seized with some rheumatic symptoms, which lasted for a few days. Some time afterwards he was affected with pain, which was rather severe about the upper part of the dorsal vertebra, increased by pressure on the spinous processes, and by motion of the spine. This gradually increased, and he in a short time afterwards felt weakness in the lower extremities, and also a good deal of difficulty in walking, so that he fell down occasionally. At present he has a good deal of difficulty in walking, impaired sensation in the lower half of the body, and pain in both of the upper extremities. The spinous processes of two or three of the upper dorsal vertebræ project somewhat more than usual.

This man lived for upwards of twelve months, complaining at different periods of difficulty in walking, impaired sensation in the lower extremities, and occasionally of retention of urine. He afterwards sunk.

Autopsy.—Both of the pleural cavities were pretty generally adherent, more especially towards the apex. The wall of a large abscess was situated on the anterior part of the bodies of several of the upper dorsal vertebræ, and had formed a communication with a vomica in the apex of the right lung. The intervertebral substance between the fifth and sixth cervical vertebræ was completely destroyed, and the bodies of two of the last cervical, and several of the upper dorsal, were in a carious state.

CASE III.—A tobacconist, aged 20; has always enjoyed pretty good health until about twelve months since, at which time he became subject to pain in the occiput and both of the upper limbs. The pain after some time became less severe, although it was succeeded by great weakness in both of the upper and lower extremities. At present he has severe pains in the occiput, experiences much difficulty in rotating his head, and also in bending it forward. There is an angular projection of the spinous process of the third cervical vertebra, similar to that observed in caries of this portion; and he appears to breathe with difficulty.

This man lived for six months, frequently complaining of severe pains in

the occiput and neck; and he also became paralytic in both the upper and lower extremities.

Autopsy.—The spinous process of the third cervical vertebra was unusually large; the body of the vertebra was quite free from caries. The body of the second was affected with caries, and the theca opposite to this part was thickened, and adhered to the ulcerated portion. The spinal marrow also was at the latter part in a considerable degree softened, and easily separable with the knife, &c.

In the larger proportion of cases in which ulceration of the bodies of the dorsal and lumbar vertebra is about to take place, it is preceded by weakness in the part affected, and the latter in some cases continues for a long time previous to the occurrence of any pain, while in others it is soon followed by this symptom. On the contrary, in most of the cases of ulceration of the cervical vertebræ which have come under my notice, the patient has complained of pain in the neck (unpreceded by weakness), which was in some accompanied with stiffness, whilst in others it continued for a long time without any other inconvenience.

The pain is in the beginning of some cases very slight, and by no means constant, as I have seen instances where there was at the commencement of the disease upwards of two months' intermission between its visitations; however this is not the case after the disease has made a considerable progress, the pain then becoming more constant and severe, and confined in some to one extremity, whilst in others both of the upper extremities are affected. The extremity that is affected is in some of these cases exceedingly painful. The pain continues day and night without intermission, until the patient is quite exhausted; it extends downwards along the arm, frequently to the ends of the fingers, and if the hand on the side affected be grasped, the pain in most of them will be conveyed upwards to the neck, where the disease is situated; whilst on the contrary, the arm on the other side is free from pain, and can be moved in every direction. In others the pain does not extend along the whole of the arm, but is confined to one part (which is frequently the elbow), and renders it liable to be mistaken for disease situated in that

joint. The pain dependent upon ulceration of the cervical vertebræ may affect the elbow, whilst the shoulder on the same side is free from pain, and the latter can be moved in every direction without any increase of the patient's sufferings; whilst on the contrary, flexion, extension, or even pressure, applied to the elbow, will cause a considerable increase of the patient's distress.

I was requested some time ago to visit a boy who lived in Whitechapel. The disease was situated in the second and third cervical vertebræ. He complained of a very severe pain in the occiput and bend of the elbow, on the left side; yet frequently when the pain was present, he could move his head in all directions without any increase in his suffering. At length he became delirious, and eventually died.

In the greater proportion the pain in the arm terminates in complete loss of motion; however this is not always the result. One instance came under my observation where the patient died previous to any paralytic symptoms or projection of the spinous processes shewing themselves.

When both the upper extremities are affected, they are not always implicated in the same manner. Occasionally it happens that after the neck has been painful for some time, both limbs become weaker; at other times one of them is painful, and without paralysis, whilst the other is motionless, without pain.

These symptoms differ from those which are attendant on enlargement of the odontoid process of the second vertebra, producing pressure on the spinal marrow. In this there is complete loss of motion, and sensation also is somewhat impaired, both in the upper and lower extremities, so that the patient lies motionless; but there is no projection of the spinous processes of the cervical vertebræ, and the patient generally keeps his chin bent upon the sternum to relieve the pressure caused by the morbid growth.

Pain in the occiput is so constantly attendant on disease of the cervical vertebræ, that it has been mentioned by gentlemen of great eminence in our profession as being always present; however this is not the result of my experience, as it was absent in two out of the three cases above related. The cause of the difference in the symptoms when it

occurs below or above the fourth cervical is, I believe, to be found in the branches of nerves which are given off in this place to supply the occiput. In the cases where the pain in the occiput was present, it was generally very severe, and in some it continued both day and night without intermission, until the patient died. The pain in the occiput is in most cases increased on moving the head in any direction, forwards, backward, or laterally, so that the patient keeps his head fixed in one position; and I have observed in one or two instances after it had continued for some time, that the occiput was partially deprived of its sensibility, similar to what occurs in the arm. There are other cases in which the pain is not so severe, but extends forwards as far as the temples on one or both sides of the head. Another symptom that is frequently an attendant on these cases, especially after the disease had made a considerable progress, is an obstruction in the throat; and I have seen some in whom this was present, although there was no projection of the spinous processes to be observed. The difficulty of deglutition does not take place in the majority of cases among the first symptoms; it occurs after the disease has existed for a considerable length of time, so as either to produce pressure on the pharynx or œsophagus, or ulceration of either of them. Neither does it always take place under the same form; some patients complain of only a slight difficulty in swallowing, whilst others complain of a considerable degree of pain in the throat, as well as impediment; however, after the disease has existed for some time, the pharynx or œsophagus (according to its situation) becomes ulcerated, and a communication is formed between it and the ulcerated vertebræ. Whenever a communication was formed between the ulcerated portion of the vertebræ and pharynx, the patient invariably had pus evacuated from the mouth while living; and on inspection after death, a large portion of the pharynx opposite to the diseased vertebræ was found destroyed by ulceration.

A great number of those who came under my observation affected with this disease have complained of pain in the chest; this, however, was not invariably the case, as some of them were entirely free from the symptom in question.

A NOTE IN REPLY TO DR.
GRAVES.

To the Editor of the Medical Gazette.

SIR,

THE argument used by Dr. Graves, in his communication to the MEDICAL GAZETTE of last week, is rather *Irish*. To prove his claim to the discovery of the reflex function, he quotes a lecture published in 1834, which he believes to have been delivered in 1833; whereas my *first* paper upon this subject was read to the Zoological Society in 1832, and my *second* to the Royal Society positively in June 1833. Besides this anachronism, your readers, on comparing our different publications, would find very little in Dr. Graves's lecture which could be considered as really interfering with my pretensions.

I am, sir,

Your obedient servant,

MARSHALL HALL.

14, Manchester-Square,
June 27, 1837.

MEDICAL GAZETTE.

Saturday, July 1, 1837.

"Licet omnibus, licet etiam mihi, dignitatem
Artis Medicæ tueri; potestas modo veniendi in
publicum sit, dicendi periculum non recuso."

CICERO.

MEDICINE IN ENGLAND, FRANCE,
AND GERMANY.

A PRESS of matter requiring immediate insertion in our last number, compelled us to break off somewhat abruptly from the consideration of the mode in which the medical profession is at the present day being followed in Germany, France, and England. We had remarked on the great difference of the principal object of pursuit in each, as evidenced both in the publications and general conduct—the personal interests of those who study in each country—and the evident influence which had been exerted by the occurrence in each, of men famous in that branch of

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the science which is now nearly exclusively followed. We shall on the present occasion resume the last part of the subject, and shall endeavour, as our clerical friends would say, "to improve the consideration of it to our edification."

In Germany, the profession, as known to foreigners, seems almost as one man. A small minority, if not in regard to numbers, at least to reputation, *practise* it to gain their bread; all the others, and with scarcely an exception every one of renown, are Hallers of greater or less dimensions: they have, in fact, had none but purely scientific teachers for some years. The theories of Stahl and Hoffmann, whatever renown they might have brought their originators, were, like theories in general, much more amusing to the inventor in planning than to the disciples in working out, especially when they were found to have so many flaws; and, in consequence, all have followed the still open road along which Haller, Reil, the Meckels, Blumenbach, Soemmering, and a crowd of others, had in person led them. Succeeding years have only confirmed the habit of imitation; and though new teachers may have opened new schools, they are all on the same "objective" plan.

It will be sufficient to have alluded thus to this tendency in the mass to imitate those most exalted, and in pupils to follow the dicta of their masters, to show how urgent is the necessity by which teachers at the present day are called upon to be cautious what example they set, and what doctrines they profess. We could present rather a serious tragedy if we were to collect all the cases of poisoning by huge doses of powerful medicines by the disciples of *this* physician, and of sanguinary homicide by the imitators of *that* bold surgeon, though they may both enjoy high repute, and may both teach crowds of astonished admirers.

We tell all such, without hesitation, that the deaths of those who perish by the hands of their imitators lie as much at their doors as at those of the actual perpetrators. They must surely know that such means as they employ are not without danger even in their own hands. What peril, then, do they not incur, when guided by those far more valiant, but with far less discretion, who like "fools rush on where angels dare not tread." They must be aware that the pupils always carry their master's systems farther than he would have done himself. Did the absurdities they thus generally expose merely lead to the destruction of the systems on which they were founded, they might be innocent, or even useful; but they often do not attain this end till they have cost much human life. We could be almost glad to see this homicide by audacious desire for celebrity, punished like actual murder, for there really is not much difference between taking a man's life for his money, and sacrificing it to increase one's own reputation.

But to return from this digression: A number of causes have produced another marked difference in the profession in these countries, as regards the manner in which they become known to the public. In Germany, every man of any repute writes and publishes; the amount of their literature is enormous. In Berlin alone, at least eleven medical journals, many of them conducted by teachers of renown, are regularly published; six or seven voluminous systems of physiology are in the press, and the number of anatomical dissertations and other works, of various sizes, baffles all calculation. How different in England!—our whole dominions produce but few more medical periodicals than the comparatively small town just named (we say this without regret), and reviewers find it as difficult to get

books to write of, as to praise them conscientiously. Hence, perhaps, it is that foreigners form such extraordinary ideas of the state of medicine here, for they can scarcely believe that men whose names never graced a title-page, should have names graced with titles for their merits. They judge (as Mr. Burke said) that the loud and troublesome grasshoppers are the only inhabitants of the field, because, while they are perpetually chirruping, hundreds of mightier animals are chewing their cud in silence.

Indeed we fear we cannot, on the whole, be proud of our medical works at the present day; some are undoubtedly marked by high talent, and contain much valuable information, but the mass are merely got up for private purposes. A young man wants to be known, and in a few unemployed days he distils some crudities from a turbid brain by the heat of vanity; or an ancient brother is growing rusty in his reputation, and he, from his long-forgotten case books, squeezes out, with all the pressure of a Papin, a hard extract, which he calls the result of his experience, and old ladies and invalids read and actually believe these books—and practice, the common end, is thus obtained. Again, a teacher can attract but few pupils without having written his compendium; so he puts together all his lectures, after filtering off the jokes with which they were flavoured; for men will read much denser matter than they could hear without sleeping.

But by these means there can be no doubt that we are much degraded in the eyes of foreigners, who, though they write nonsense enough, have yet a sufficiently large quantity of what is good to throw disguise over the bad—and we hope that a love of the reputation of their country, if not of themselves, amongst right-thinking persons and competent judges,

will induce a greater caution on the part of those who are anxious to see themselves in print.

We have said enough to show how strongly marked are the differences of character and pursuits in the mass of those who study or practise medicine, and how the German physiology, the French pathology, and the English practice, stand pre-eminent. We say in the mass, for it is of course impossible to speak except generally on such a subject, and because the constant communication which now takes place between the several countries, has not been without effect. In England we have some half dozen anatomo-physiologists on the German plan, and the French and Germans some pure practitioners*; but even if they excite admiration, they seldom attract followers, and their chief reward of praise is found abroad, among the congenial spirits of the land of which they might be denizens. We need only mention the far higher esteem with which the name of Sir Charles Bell is regarded in Germany than in England. There Müller calls his discovery of the functions of the spinal cord "the second great discovery in physiology†." Here it is disputed or underrated, and its author allowed, if not compelled, to leave the metropolis; here, as in all cases, "the prophet is not without honour, save in his own land."

In the few remarks which we have made on our way hither, we have had regard principally to the improvement of our profession simply as a science—and to the same end we would call on examiners, as well as authors and teachers, to contribute their share. They may be sure that whatever they require of candidates, a considerable majority will learn only just as much as is abso-

lutely necessary; hence (within certain fair limits), the more demanded the better. But the quality should be looked to as well as the quantity; and it would be well if the general principles of the science were required to be known rather more than the overburdened and confusing mass of isolated facts which students are generally obliged to *get up*, and which compel them to have recourse to the most ridiculous and unworthy means.

Let us now consider the more important part of our subject—the relative degrees of public benefit which are to be derived from these three distinct modes of pursuing the same subject; for, after all, the public benefit is the end to which all medical researches should tend. The immediate connexion of our science with the happiness of the whole of our race, is that which alone makes it superior to the study of the mere descriptive sciences, as zoology, botany, &c. to whose professors the German medical professors are closely assimilated. That the consideration of the minute details of human structure and functions, and the comparison of them with their analogues in the surrounding world, will ultimately lead to sure and fixed foundations, on which may be built a perfect system of laws governing the human frame in health and disease—and that the application of purely inductive reasoning upon facts cautiously ascertained by observation of healthy and morbid phenomena, and by experiment, will at last unravel the present entangled and complicated skein of medical science—is what we may most sanguinely hope, for these principles have already lighted our brightest beacons. And though the day of complete attainment is yet far distant, and probably even centuries must elapse before it will arrive, still it behoves every man to use his best

* We use the term literally, not according to the nomenclature of English medical politics.

† Phys. vol. i.

efforts to forward it. But we must not wait its approach with apathy, nor let the hope of it absorb our present views; rather we must make the best use of the means we now possess for the benefit of our contemporaries, and our best exertions to hasten the arrival of this medical millenium for the advantage of our successors.

An intelligent German reviewer, remarking on the purely practical nature of our courses of medical study, says, "perhaps this *realism* of the English is on the whole better than our German *idealism*" (perhaps he was being treated physiologically for some painful disease). We agree with him that it is so, at least for the present generation. If we consider the comparatively little progress which the treatment of disease has made, while physiology and pathology have so much advanced, we must be at once convinced how distant is the discovery of laws in the one from their application in the other. Compare, for example, the two sciences as in the time of Harvey or Sydenham, and in the present day: the laws of life were almost unknown to them, while we have scarcely added a remedial measure to those then made use of. Till, then, we arrive at a knowledge not only of the laws of health and disease, but of their application to the treatment of the latter, we must be content to employ the results (apparently true) of the best evidence we possess—the experience of ourselves and others. Many are probably only partially correct; but we have no right to look on in despair because we have not found out the true principles on which to found our practice. It is perfectly possible for a practitioner to consult at once the interest of his contemporaries and of succeeding generations: he may practise his profession according to rules deduced from past experience, even though their essence be inexplicable; and he may at the same time use his best

endeavours to discover fundamental laws. Where his received experience clashes with his apparently ascertained principles, let him weigh the comparative merits of the two with the greatest caution; and we would recommend him to incline rather to the former. We cannot but think it altogether unwarrantable to neglect treatment because not clearly explicable, and still more so to subject our fellow-men to the experiments which the present mode of studying often inflicts upon them. In this we allude particularly to French practice: by the system of ontology, as Broussais calls it, a disease is made a sort of target at which different kinds of missiles are fired, as for trial—a hundred of one sort, and a hundred of another; and those of which the greater number hit are deemed the best. Little or no reference is made to the varying condition or constitution of the patient; he has this or that disease, and this or that treatment must be applied accordingly. The right remedies will be found at last, perhaps; but the present generation are made an unhappy race of scape-goats in the cause. But if this system regards the interests of our descendants of the next century, the apathy with which the Germans regard the present state of medical practice would seem to be excusable to them by the benefits which the next coming thousand years may acquire. It would surely be better to make the use of the stethoscope somewhat too common to admit of its being called "a singular study," than to dispute over the history of the discoveries of nervous filaments and ganglia of Lilliputian dimension, and often imaginary or theoretic importance*; and to reconsider some of their chimerical notions—as of paralysis of the lungs†, rather than make perhaps erroneous obser-

* Mueller's Arch. Heft 2, 1837.

† See Dieffenbach, Zeitschrift, Heft 5, 1837.

vations on the seminal animalcules of earth-worms and cock-chafers.

At the same time let our *practitioners* learn the necessity which the often proved insufficiency of their means must daily teach, of studying to discover more solid principles to replace the dogmatic rules deduced from mere experience. They should have a double object in view—to benefit their present patients by all the means they possess, whether rational or empirical, and to benefit their successors, or it may be the present generation, by working out rational knowledge, and discovering new and better grounded modes of treatment. Let them, in short, learn to practice empirically where rationality does not assist them, and to study rationally to correct their empiricism.

COLLEGE OF PHYSICIANS.

ELECTION OF FELLOWS.

WE understand that on Monday last, being the annual meeting appointed for the purpose, the Consilarii presented to the College a list of those Licentiates whom they proposed to add to the Fellowship. Two only were thus recommended—namely, Dr. Copland and Dr. Ferguson; who were accordingly elected.

It will be remembered that last year the Fellowship was offered to fifteen Licentiates, and we entertained a confident hope that on the present occasion the numbers would have been increased, so as to include all of unexceptionable character and of a certain standing. That this would have been the fairest, as well as the most politic proceeding, seems to us so obvious, that we are at a loss to conceive on what grounds a different opinion can rest. We do not profess in any degree to comprehend the motives which influenced those with whom the arrangement rests, but in our humble judgment any thing less calculated to give general satisfaction,

or to diminish the unpopularity of the College among the Licentiates, could not easily have been devised.

In making these remarks, we would by no means have it supposed that we refer to the new Fellows; the former of whom is a most learned physician and well-known author, and the latter a highly accomplished, though we believe hitherto anonymous, writer. It is not to the selection, then, but to the number—small in the extreme—of admissions that we object; and by which we are convinced that the College will excite increased hostility, without having added proportionately to its own strength.

POST-MORTEM EXAMINATION OF HIS LATE MAJESTY.

[We last week gave an account of the chief symptoms of his late Majesty's disease, and of the post-mortem appearances; since that time the following official document has been published.—*ED. GAZ.*]

Windsor Castle, June 20, 1837.

On examining the mortal remains of his late Majesty, William IV., the following appearances were noticed:—

In the right cavity of the chest there was an effusion of about fourteen ounces of serous fluid. The lung on that side was no where adherent; the vessels of the lower lobe were very much tinged with blood, and the air-cells contained a mucous and serous fluid, having a bloody tinge. The left lung adhered generally, and with great firmness, to the surface of the pleura lining the chest; these adhesions appear to have resulted from former attacks of inflammation. The vessels of this lung were also tinged with blood, and its lower part was somewhat indurated. The rings of the trachea and bronchi were ossified to a great extent; and the lining membrane was of a dark colour, in consequence of the distended state of the vessels. The pericardium adhered universally to the surface of the heart; but these adhesions were slight, and appeared to be of very recent formation. The heart itself was large, and softened in its texture; its right side was extremely

distended with blood, but exhibited no marks of organic disease. On the left side of the heart the mitral valves were found to be ossified, and three semilunar valves of the aorta were in the same state. The ossification was in two of them to such an extent that it must have entirely interfered with their functions. The coats of the aorta were much thickened, and on its inner or lining membrane there were several deposits of earthy matter. The liver was somewhat enlarged and hardened, and was of a granulated structure throughout. The gall-bladder was extremely contracted, and contained but little bile. The spleen was increased to double its natural size, and a large portion of its surface was covered with a cartilaginous deposit. The pancreas was enlarged and indurated. The stomach and intestines were healthy, except at one part of the large intestine, which was narrowed by a thickening of its inner membrane. The right kidney was quite sound, but the left was unusually vascular, and exhibited a granulated appearance. The investing membrane adhered very slightly to it. The bladder was in a healthy state. Signed by

M. J. TIERNEY,	ASTLEY COOPER,
WM. F. CHAMBERS,	ROBT. KEATE,
DAVID DAVIES,	B. C. BRODIE.
ED. DUKE MOORE, Apothecary to the Queen.	

DEATH OF MR. LYNN.

WE have this week to record the death of Mr. Lynn, among the last of the connecting links between the last and present generation of English surgeons. Mr. Lynn was in the 84th year of his age, and was for a long period one of the surgeons to Westminster Hospital, from which he retired but a few years ago.

SKETCH OF RASORI.

RASORI, the founder of the present Italian school of medicine, was born at Parma, in 1766, to the chief hospital of which city his father was head apothecary. At the early age of eight, he entered the University of Parma, where he commenced the study of the classics, and afterwards acquired an accurate knowledge of the English, French, German, and Spanish languages.

His attention appears to have been

about this time directed to a great variety of subjects, in all of which his proficiency was remarkable. He seems in particular to have acquired a taste for general literature, which he always retained.

He prosecuted the study of medicine with zeal, and at the age of nineteen was made doctor of medicine by the University of Pisa. His thesis excited a good deal of attention, from the novelty of some of its views, as he introduced the subject of animal heat, and Crawford's theory, which was at that time unknown in Italy.

At the time when Rasori took his degree, surgical knowledge was much neglected at Pisa, and it was usual for the University to send one of its graduates abroad to study surgery, and afterwards to make him professor of that branch of medicine. Rasori was elected for this purpose at the age of twenty, on which he departed for Florence, where he became the friend and pupil of Fontani, Nannoni, and Mascagni. In three years he removed to Pavia, where he remained two years, and enjoyed the friendship of Spallanzani, whom he assisted in his experiments.

At this period the Brunonian doctrines made their appearance in Italy. Rasori studied Brown's work with ardour, and translated it into his own language, arguing at the same time against many of the doctrines which it contained. In 1793, Rasori came to England, where he remained for two years, and on his return, settled at Milan.

In 1796, Rasori was appointed professor in the University of Pavia, in the room of Scarpa, who refused to take the oath of allegiance to the government of Bonaparte. His opening address was a profound "examination of medical doctrines," and next day he harangued his pupils in the cause of liberty.

After being professor two years, he was called to be secretary to the Minister of the Interior, in which office he shewed his usual activity: but he soon found that this was not his vocation, and he obtained leave to return to Pavia, in the capacity of professor of clinical medicine, and chief of the medical directory. After holding this office for three months he was suddenly deprived of it, and replaced by his rival, Moscati.

On leaving his professorship, he

was made government-superintendent of the great hospital of Milan and its dependencies; but immediately afterwards he retired with the French army to Gènes, where he remained until its surrender. During the siege a petechial fever raged generally and extensively, and Rasori treated it according to the principles which he had already explained in his clinical lectures at Pavia. He was very successful, and published a history of the disease, in which he gave an account of the doctrine of contra-stimulants, and the employment of large doses of tartar emetic.

After the battle of Marengo he returned to Milan, where he endeavoured to confirm his opinions by a variety of experiments on animals, and to establish the stimulant influence of some remedies, and contra-stimulant power of others.

In 1807, when Rasori's reputation had become established, and strangers began to resort to him, he was allowed by the government to form two clinical wards, one for men, and the other for women, each of more than 100 beds, in the great hospital of Milan. It was in these wards that he practically developed his system, and instructed the pupils, who afterwards spread his doctrines so widely.

But Rasori did not remain long in private life, for he was soon appointed first physician of the kingdom, which office devolved on him the general direction of matters connected with the public health. At this time the petechial fever, which has been mentioned, was raging not only in the hospitals of Lombardy, but also in many stations in which the troops had remained. Rasori was dispatched to stop its ravages; and he succeeded in doing so by isolating the affected from the unaffected.

His general services and success in practice were appreciated by the government, which, in 1808, made him professor of clinical medicine to the military hospital for the instruction of medical officers for the army. In this office he gave the most complete satisfaction.

The success of Rasori, however, created him many enemies; and a violent attack on his doctrine of contra-stimulants was published. To this attack Rasori replied in the most open and satisfactory manner, by publishing

annual reports of the results of his practice.

On the re-occupation of Lombardy by the Austrians, Rasori lost all his appointments, and fell under the suspicion of government. On a conspiracy being apprehended, he was seized, imprisoned, and kept four years in confinement. During his imprisonment, although his health suffered considerably from intermittent fever, he displayed his wonted activity of mind; he wrote a review of a work on diseases of the spine, translated a work from the German, and began to prepare a large work on inflammation, which he lived to complete before his death. This work is about to be published, and has excited a good deal of expectation.

After his release from prison, Rasori continued to publish interesting tables of the results of his practice, proving the superiority of his own method over that of other physicians. About this time the then Princess of Wales, while travelling in Italy, was taken ill, when Rasori was sent for, and cured her.

It is only necessary to add, that after his release his hospital practice was followed by as many pupils as formerly, and that his general practice was such as his many agreeable qualities were calculated to insure. He died on the 15th of April of this year, aged 71. A colossal statue of him in marble is about to be erected in Milan. Rasori's contra-stimulant system, which at present prevails in Italy, is but a slight modification of Brown's doctrines, and though it has excited a good deal of attention in its day, is quite destitute of the elements of stability. Some remarks on it will be found in this journal, vol. xviii. p. 247.

[We are indebted to the *Gazette Médicale* for the substance of the preceding account of this distinguished physician.]

OPERATIONS AT ST. GEORGE'S HOSPITAL.

Amputation of the Thigh, Abscess in the Head of the Tibia — Hare-Lip — Strangulated Hernia, Extensive Suppuration, Sloughing Omentum—Encysted Tumor in the Parotid Gland.

MAY 4th, amputation of the thigh was performed by Mr. Hawkins, on a young man who had been in the hospital since February last, for disease of the knee-

joint, which had commenced a year before his admission. The disease seemed for some time to yield to blisters, and to be nearly cured by ankylosis, but six weeks after his admission, pain of an acute kind began to take place in the joint, with swelling around it, accompanied by very great tenderness, chiefly at the sides of the ligamentum patellæ. There was considerable fever, and it appeared as if abscess was taking place. A consultation was held on his case March 28th, in consequence of his desire to lose the limb, but it was agreed to try the effect of mercury, at the suggestion of Sir Benjamin Brodie, who said he had seen some cases of the same appearance yield to it. The pain was at first relieved by calomel and opium, given so as to affect the gums, but the pain soon became more severe than ever, with perspirations and fever, and the operation was accordingly performed.

The knee was found to have been completely ankylosed, the cavity of the synovial membrane being wholly obliterated, so that nothing but fatty substance occupied the interstices of the bones, which were all three united by bone. On making a perpendicular section of the three bones, a small abscess was found nearly in the centre of the cancellous structure of the head of the tibia, the quantity of thick pus which it contained being not more than half a teaspoonful, with some lymph in the cells around it.

There was some hæmorrhage in the evening from the stump, requiring the removal of all the dressings, the bleeding continuing at intervals for the whole of the next day; it then ceased, however, but the extent of infiltration with blood caused a good deal of sloughing of the surface. He suffered from repeated sickness, and had some inflammation in the course of the femoral vein, and on the 23d had rigors, with tenderness of the pectoral muscle of one side, which excited apprehensions of absorption of pus having taken place. These symptoms, however, soon subsided; he sat up in three weeks, and the stump is now (June 10th) nearly healed.

On the same day, Mr. Walker operated on a child for hare-lip, in the usual way; the incision healing readily afterwards.

May 11th, Mr. Hawkins performed the operation for strangulated hernia. The patient was between fifty and sixty, and had had a rupture for seven or eight years, without having worn a truss. She was weak and out of health, and fretting about a sick husband, who has since died; which circumstance, no doubt, materially influenced the case after operation. The day before her admission, while ironing,

she suddenly felt ill, without being sensible, however, of any increase of size in the rupture till the next day. She had much sickness, pain in the abdomen and in the tumor. On her admission, fever, sickness, and tenderness continued, with much expression of suffering. The tumor was four inches long, turning outwards from the right femoral ring, and was not tense nor tender except close to the ring.

The operation was performed at 9 P.M., 29 hours from the time she was taken ill. The sac was thin, and contained a small quantity of dark serum, and within it was a mass of condensed omentum, smooth on the surface, and looking exactly like an enlarged gland, especially while covered by the sac; it was about $2\frac{1}{2}$ inches long, and completely adherent, except at its upper part, where, on turning it back, a small portion of dark intestine appeared, which had quite lost its smoothness on the surface. It was easily returned on dividing the stricture; the omentum was left in, and the wound dressed with ligatures.

12th.—The symptoms were instantly relieved by the operation, and the bowels opened several times in the night.

13th.—Was restless last night; sick several times; tenderness over the abdomen, and around the wound. Pulse 120, full; skin red around the wound.

Mr. Hawkins pointed out to the pupils the resemblance her condition bore to a person with peritonitis after hernia, but expressed his opinion that her symptoms arose from suppuration in the sac; this circumstance often taking place where it was thin and loose, and especially where omentum is left in the wound. He accordingly removed the dressings and ligatures and opened the wound freely, which had united externally; a small quantity of purulent lymph being found in the sac, with much inflammation of the omentum.

14th.—She was completely relieved from the constitutional disturbance, but the lymph secreted by the peritoneum had again united the integuments to the surface of the omentum, and lymph of the same semipurulent character was also seen in the substance of the omentum, and there was redness and inflammation of the cellular texture around the wound. Mr. Hawkins therefore made a deep incision into the substance of the inflamed omentum, and prolonged the wound of the integuments to some extent. She had also a dose of calomel and opium.

15th.—The calomel was repeated, with some castor oil.

16th.—Delirious last night, restless, and desponding. Hardness and redness of the integuments to some extent around the inflamed omentum beginning to slough, and blocking up the discharge from the

cellular texture around. Pulse 96, weak; tongue clean; bowels open.

An incision was made nearly to the spinal process of the ilium, to relieve the inflamed parts. Some gin and wine given her.

After this time, though not without great care, she began to improve, having occasional relapses from suppuration in several directions round the wound, requiring an opening to be made behind the ilium, and making it necessary to watch frequently that no matter got confined by lymph, to the secretion of which there was a great tendency. The omentum sloughed away in great measure, and it is not till lately that the constitution has become strong enough to form healthy granulations. Even as late as June 10th an abscess formed over the trochanter major, but the abdominal muscle, omentum, and other parts, are now (June 20th) granulating well, and the wound gradually contracting. She is beginning to sit up.

May 18th, a tumor was removed from the situation of the parotid gland, by Mr. Walker. It had been coming for a considerable time, was of the size of a large walnut, moveable and elastic, like an encysted tumor, which it proved to be. A transverse incision was made across its centre, and the integuments dissected from the surface; in doing which the cyst was opened, and some atheromatous matter escaped, which was then all pressed out, and the cyst was dissected out with some difficulty, from its irregular shape and thinness. No large vessels were in the way, though the hæmorrhage was considerable altogether; and the tumor not going into the substance of the parotid gland no injury was done to the portio dura, and no paralysis of the face produced. There was a great deal of fever after the operation, and the patient was ill from an attack of erysipelas, which prevailed at the time. The wound has since healed, however, and the patient (a young man) has been discharged cured.

CASE OF URINE HAVING A MILKY APPEARANCE.

THE following case occurred in the practice of M. Caffé, who called in to his aid MM. Orfila and Rayer:—

M. J. O. Da Costa, of lymphatico-nervous temperament, with light hair, aged 22, was born at Rio Janeiro, which he never left till May 1836. Four of his brothers died in early infancy, but he had enjoyed perfect health from the age of 10, with the exception of his having fre-

quently had attacks in his lower extremities, apparently of erratic erysipelas, which recurred periodically.

His diet had been a full animal one, with very few vegetables. Four years ago, on a sudden, after rather violent exercise, and without any previous symptoms, he passed, without any pain, white milky-looking urine. This was removed by nitre draughts and by rest. A year afterwards he had sharp pains in the lumbar regions and in the region of the bladder; in fact so intense that the patient bent himself violently forward in passing his urine, which was so thick as to occasion difficulty in its passage through the urethra. It formed a homogeneous soft mass, and was sometimes mixed with a good deal of blood. These acute pains lasted for about fifteen days. Leeches were applied to the hypogastrium and to the perineum. He used emollient baths and nitre draughts, and afterwards Seidlitz water and sea-bathing.

The pains slowly diminished, but did not entirely cease till after three months. The urine was, during that time, sometimes white, sometimes natural, and sometimes bloody. After this time the urine passed was often natural for two or three months, when it suddenly became milky again, without any appreciable cause. Riding seemed to favour a return to the natural state. His urine was, during the months of April, May, and June, generally better; and for the nine next months his diet was exclusively of chicken and rice, with ewe's milk. He also took a great deal of turpentine.

During the sixty days of his passage to Europe his urine was natural, and his general health had not suffered when he arrived in Paris, in July 1836. On the milkiness of his urine re-appearing, M. Caffé prescribed a decoction of fir-buds, alternating with the use of the waters of Vichy and the baths of Barege, with flannel to be worn next the skin; and afterwards a decoction of radish-root, with pills of sulphate of iron and sub-carbonate of potass. This treatment was of no decided or permanent use.

He continued the use of ferruginous preparations, and appeared the better for a journey to England, where M. Caffé asserts that Sir Astley Cooper, Drs. Marshall Hall, Carswell, and Clark, suggested no new mode of treatment. On his return to Paris the milkiness recurred, and the following is an account of his general condition:—

1. Three or four times only has the urine appeared more abundant than the liquid ingesta.

2. The milky appearance of the urine varied much even during the same day,

and during the same week; the urine was sometimes natural and sometimes milky, while no irregularity in diet or other cause for it could be recognized.

3. The urine was sometimes bloody; particularly before the use of the iron.

4. The passage of the urine was quite easy, and without pain.

5. The urine had the natural taste and smell; the patient was repeatedly made to taste it.

6. The patient's health appeared good, but he said that he did not feel so well while the urine was milky.

7. The digestive functions were regular, the appetite great, and the food eaten very considerable in quantity.

8. His sleep and other functions were regular.

9. After sexual intercourse his urine almost always became more natural.

M. Guibourt was requested to analyse the urine, of which he gave the following account:—

The urine is sometimes white and opaque, like milk; at other times red, like blood; and sometimes again natural. The urine red like blood, when left at rest, separates into two layers: one thick, of a deep opaque red, like a clot of blood, occupies the bottom of the vessel. The fluid above is milky, with a slight tinge of red.

The white urine sometimes contains such a quantity of fatty matter, and forms on the surface a layer like cream, which occasionally constitutes a fifth part of the urine; but commonly much less. When sulphuric æther is dropped into the milky urine, it always becomes clear. The creamy layer may be removed by æther, on which the urine becomes quite transparent. It is then yellow, if it was originally milky; and has a reddish tinge, if it was originally bloody.

As to the red substance which falls to the bottom, in the case of the blood-like urine, when treated with æther it becomes liquid, quite transparent, and of a bright red. It contains the colouring matter of the blood alone, without any fibrine. The milky urine, when made transparent by the æther, is found to contain abundance of albumen, but no casein. It is, therefore, only in appearance milky, and not so in reality. When freed from the fatty matter, and from the albumen, its other constituents were those of healthy urine.

In short, the urine of this patient differs from healthy urine, in containing a large quantity of albumen, and of fatty matter, to which the colouring matter of the blood, without any fibrine, is sometimes added.

The result of this analysis shews that the urine is analogous to that called

chylous by Prout. In fact, by adding chyle to the urine, we should get an urine of the same nature as that above described. It is very doubtful whether casein has ever been really found in the urine. [Dr. Graves has lately, in a clinical lecture published in this journal, mentioned a case in which it was detected.]

As it was thought desirable to examine the blood of the patient, he was bled. The blood formed a gelatinous trembling mass, without any white crust on the surface. On the contrary, when shaken after twenty-four hours' rest, it became quite liquid, seeming to shew the entire absence of fibrine. The coagulum of this blood contained less colouring matter than usual; but perhaps this was caused by its containing a large quantity of albumen. The weight of the coagulum, when dried, exceeded that given in any former analysis of blood. On the whole the blood contained less fibrine, but more albumen and fatty matter, than usual; and thus in some of its characters approached to chyle.

M. Da Costa's affection was therefore probably caused by the imperfect sanguification of the chyle. The following was the treatment recommended; he was to take every morning before breakfast six of these pills—

Ferri Subcarbon. 3j.; P. Cinchon. Rubræ, ʒj.; P. Cannell. gr. xij. fiant pil. xxiv.

An hour before dinner an ounce of cinchona wine was to be taken. Thrice a week an almost cold bath, with two ounces of sulphate of potass, was to be used for half an hour. Twenty-four grains of carbonate of iron were to be taken on going to bed. Roast and broiled beef and mutton were recommended as the best diet. The common drink to be good wine, mixed with chalybeate water.—*La Presse Médicale*.

MICROSCOPIC EXAMINATION OF EARTHY DEPOSITS.

VALENTIN, extending the examinations made by Miescher (*De Ossium Genesi*, &c. Berol, 1836,) on the characters of the osseous structures found anormally deposited, and subjecting all the changes of structure of this class to microscopic observation, says — that the different kinds of pathological inorganic concretions may be thus divided.—First; True osseous substance possessing the peculiar corpuscles, lamellæ, and canals (the latter only being rarely variable). Under this head may be ranked all the osseous changes which take place at any period of life in all permanent true cartilages—the ossifications of the dura mater, of which he

examined eleven cases—the osseous laminae of the spinal membranes—the osseous concretions in the eye—exostoses which, so long as they are not united with morbid degenerations, it is evident contain osseous matter as callus does. The development of these abnormal, truly-osseous concretions, proceeds from a mass of parallel connected fibres, as in the eye—from a horny matter, as in one case in the dura mater—or from true cartilaginous matter, like that which commonly precedes the normal formation of bone. To this list, too, may be added those which occur in the muscles and tendons, or the cellular tissue between their fibres, forming the common spavin, all of which present true osseous substance. Second; Organized deposits of lime, which, although not possessing the characters of true bone, have yet a regular and orderly arrangement, their basis being a lamellar, finely granular matter, in which the earth is deposited in a certain regular manner, either in the form of dark separate points, or in round ring-like bodies, sending off minute branches in all directions, which anastomose with the corresponding branches from others adjacent, like minute blood-vessels; or, lastly, in bodies of an irregular form, with wavy edges, and sending off similar minute branches. All the cases of ossification of vessels of the thyroid gland, the peritoneum, and the pleura (in those cases at least where the concrete is deposited in the interstices of the organ itself, not in its cavity), belong to this class. Third; In the third class may be ranked the entirely inorganicized deposits, in which no trace whatever of organic tissue is perceptible as in calculi, though these may well be characterised by their more or less crystalline arrangement. He remarks the coincidence of the deposits with true osseous structure occurring in the organs of re-production—those of a pseudo-osseous structure in the organs of the vascular system—and the entirely inorganic concretions in the finely vegetative organs. — *Valentin. Repert. für Anatom. u. Physiol. Bd. i. p. 317.*

LOSS OF VISION

PRODUCED BY

EFFUSION OF BLOOD INTO THE VITREOUS HUMOUR.

DOCTOR BOXWELL, of Abbey-leix, has furnished me with the particulars of a remarkable case of purpura hæmorrhagica, in the course of which an effusion of blood took place in both eyes, thus com-

pletely destroying vision. The blood was extravasated, in the first instance, somewhere behind the iris in the right eye. Now, as the pupil had a blood-red appearance when the impairment of vision commenced, and as at that time there was no discoloration or muddiness in the anterior chamber, we may conclude that the first hæmorrhage was into the structure of the vitreous humour. Had blood been effused into the posterior chamber, in such quantity as to impart to the pupil a blood-red appearance, it must have tinged strongly the fluid in the anterior chamber. Vision became worse and worse in the right eye, and was extinguished in about five hours, at which time the aqueous humour was evidently mixed with blood. Next day the other eye became similarly affected, and the young lady continued totally blind until her death, which took place in about a week afterward, under circumstances so extraordinary, that it may be useful briefly to recapitulate the leading features of her case, as communicated by Dr. Boxwell. The disease commenced with severe pain in the hip-joint, increased on the slightest motion. At first she appeared to be relieved by baths, calomel, and James's powders, followed by purgatives; but as the pain returned with increased violence, it was found necessary to apply twelve leeches over the hip-joint. Dr. Boxwell returned in two days to see his patient, a young lady about thirteen years of age, and found that the bleeding from the leech-bites had continued in spite of all the efforts of her attendants, ever since he left her. She was pale, and exhibited the appearance of a person exhausted by bleeding. Her pulse, however, was not feeble; it was quick and bounding, just as it is in many cases after copious loss of blood.

From that period her complaint assumed the character of purpura, attended with discharge of bloody urine. No other hæmorrhage took place, except that already described in the eye-balls. The bleeding of the leech-bites had completely removed the pain into the hip-joint, but she now began to complain of intense pain in the head, accompanied with throbbing, nausea, and total loss of appetite. The headache became every day more excruciating, and the discharge of blood from the bladder greater. The most judicious treatment was ineffectually employed: no medicine, no local application, diminished the agony she suffered from pain in the head; and she died on the fourteenth day from the commencement of her illness, exhausted by pain and loss of blood, having retained her intellects to the last, and without the least sign of paralysis, coma,

convulsions, or any other symptom denoting effusion of blood within the cranium. The duration of the disease, from its commencement to its fatal termination, was only 14 days.—*Dr. Graves in Dublin Journal.*

TREATMENT OF INFLAMMATORY DISEASES.

To the Editor of the Medical Gazette.

SIR,

I SHALL be obliged by your allowing me to answer Investigator's four questions relative to the treatment of inflammatory diseases. It has not been convenient to make an earlier reply; Investigator must not, therefore, ascribe the delay to any difficulty on my part.

In the first place, Investigator will not concede, on account of the great debility and fatality which attended the late influenza, that it was occasioned by the increase which occurred at the time in the temperature of the atmosphere. If, however, the respective causes of the influenza and of common catarrh be compared, it will be apparent why their effects should in some respects differ, though characterizing diseases of the same nature. For example, suppose that the late influenza was, as I contend, occasioned by the sudden and considerable increase of the temperature of the atmosphere, which continued during six weeks: when this and the other causes are considered, even in a cursory manner, they fully account for the debility, and the copious secretion of mucus, which were so remarkable in the influenza; for the increased temperature of the atmosphere, after it had produced the inflammation of the respiratory passages, was, by its continuance, well calculated to occasion general lassitude and relaxation of the vessels of the lungs, and especially among the aged and children, who were chiefly the subjects of attack. Two of the principal signs of age are debility and copious defluxion of mucus from the lungs; and young children can scarcely have any visceral disease, or can cut a tooth, without a cough, which soon becomes characteristic of a loaded condition of the lungs. When, therefore, the concomitant circumstances which attended the influenza are examined, its modified character as a catarrh is not so extraordinary. As to the fatality, the difficulty of removing effects whilst the cause continues is an axiom; but the fatality would, notwithstanding, certainly have been obviated, had a more correct view of the disease been taken.

If we now consider the primary and secondary causes of a common catarrh, the identity of the two diseases will become apparent.

Among the various causes of a common catarrh, let that be selected which resembles the alleged cause of the influenza, as the comparison will then admit of a very simple illustration. Let it be supposed that an individual who has been out the whole day breathing a cold atmosphere, afterwards subjects himself to the agency of a heated room, and that, when he has respired the hot air a short time, he is attacked with a catarrh. In this case, if the cause be *transient*, by the patient avoiding the further respiration of heated air, the catarrh will be speedily removed by the assistance of expectorant medicine. The only characters it will assume will be at first an irritable and dry cough, then an easy cough, with expectoration, which will in a few days disappear altogether.

But this case can be made to resemble one of the late influenza by a method of treatment which is by no means unfrequently adopted. For instance, if the cause, which at first was *transient*, be converted into a *continuous* cause, by confining the patient to heated rooms, the affection of the lungs will in general become more severe, when, according to the antiphlogistic treatment, he will be bled freely, and placed on low diet. Since, however, the patient continues to be subjected to the agency of the original cause—the heated rooms—the same effects will often continue in spite of these bold and *enlightened* measures; and in a few days the heated air, the loss of blood, and the privation of nourishment, very naturally, although very artificially, produce general lassitude and relaxation of the vessels of the lungs, with copious secretion of mucus, exactly resembling an ordinary case of the late influenza; and should the patient be of a corpulent frame, he may under this treatment become the subject of hydrothorax. Investigator, who advocates the antiphlogistic treatment, need not go far out of his way to convert a case of common catarrh into one precisely similar to that of influenza.

The first question of Investigator is—“Supposing a strong healthy person to be attacked with acute enteritis, how ought he, according to the new doctrine, to be treated?” The answer consists in what should be avoided, and what should be done. 1st. Avoid large abstractions of blood, or any other means which greatly reduce the powers of the frame; avoid purgative medicines, which, by increasing the peristaltic action of the bowels, aggravate the disease; and avoid medicines

which provoke sickness. 2dly. The active treatment should bear reference to the cause of the disease, whenever it can be ascertained. Should cold and wet feet have occasioned a revulsion of blood to the bowels, undo the cause by applying sinapisms to the feet; apply also ten or twelve leeches to the abdomen. Should the whole surface of the body have been exposed to an unusual degree of cold, by an alteration of clothing, cold bathing, &c. the circulation on the surface of the body should be restored, by applying blisters to the abdomen, by flannel clothing and sudorific medicines; and the mode in which the inflammation was produced will be thus counteracted. Should there be frequent vomitings, apply a mustard poultice to the region of the stomach, administer calomel and opium, and small soda draughts. When the stomach can receive nourishment, let the patient have small quantities of white wine whey, milk, &c. Such comparatively mild means—means which never injure the constitution—when selected with due regard to the primary and secondary causes, will scarcely ever prove inadequate to the removal of an acute enteritis.

Investigator relates a case of acute enteritis, in which he speedily removed the inflammation by copious abstractions of blood. Without inquiring, in an individual case, whether the patient's convalescence was tedious or otherwise, or what the future condition of his constitution will be after having lost nearly half a gallon of blood, I will remark, that many robust men die under such treatment; and among those who survive, the majority are much impaired in constitution; and if Investigator will in future weigh the unfortunate with the fortunate cases, he will convince himself of the impropriety of persisting in the "old antiphlogistic practice," which places a man's life in the most hazardous position, by attempting to remove effects regardless of their causes. What can be less scientific, or more barbarous, than this practice? "Will it be believed that this is the" prevailing practice "in the year" 1837?

"Question 2.—In cases like the above, in which the stomach is so irritable that nourishment cannot be taken, is the old antiphlogistic practice, which, according to the new doctrine, must be worse than leaving the patients to nature, to be had recourse to, or is nothing to be done at all?"

The answer given to the preceding question contains an answer to this. It is strange that Investigator should so misconstrue the "new doctrine" as to conceive that it consists in nothing but the recommendation of nutritious food for the cure of inflammation.

"Question 3.—How does nourishment, by increasing the general circulation, as it necessarily must, cure inflammation, which is certainly either the cause or the effect of increased vascular action?"

For the proof that I have not proposed *curing* the local disease, inflammation, by the administration of nourishment, I beg to refer the reader to the *Lancet* for September 17, 1836; in which I have contended that it prevents inflammation assuming an acute form, and that it prevents the accession of pyrexia; but that the method of curing inflammation depends upon the causes which have produced it, and upon other circumstances.

Investigator here assumes that nourishment necessarily increases the general circulation. This is one of the most fatal errors emanating from the antiphlogistic doctrine, and on which is founded the innutritious diet it prescribes. Let us start fair: in health, a moderate quantity of nourishment can be taken without sensibly increasing the circulation; and in disease it is the same, excepting in a disordered state of the digestive organs, provided the powers of the frame have not been already impaired. But the adherents to the antiphlogistic doctrine cannot understand this, because their doctrine prescribes copious depletion, which suddenly impairs the energy of the whole frame, rendering it thereby so exceedingly excitable that if the patient take nutritious food it increases the circulation and imparts general irritation. On the contrary, one of the leading features of the "new doctrine," relative to the treatment of inflammatory diseases, is, that nourishment, so far from increasing the circulation, has the tendency to prevent such increase, as I have said on a former occasion. "By these means (nourishment, &c.) the strength and the healthy functions of the body will be considerably maintained; at the same time the *nervous*, and consequently the *vascular and visceral irritability*, so often *allowed* to complicate cases of phlegmasia which otherwise would be perfectly simple and manageable, will be *obviated*."

"Question 4.—In what way does the fearless administration of nourishment remove the delirium which so often attends acute phrenitis, without increasing the action of the blood-vessels, and quickly leading to a fatal catastrophe?"

I have not stated that nourishment *removes* delirium; it is true I have said that it *obviates* visceral irritability, and that calomel and opium "*alleviate* delirium when it exists."

Nourishment, by maintaining the energy of the brain, prevents delirium; an impaired energy being essential to almost every form of delirium. As this does not, of course, accord with Investigator's view

of the nature of delirium, it is requisite to produce instances in its support. Delirium tremens is an admitted example of impaired energy of the brain; nearly all the aerial poisons are capable of so depressing the powers of the brain, in delicate persons, as to produce, in addition to the most distressing general languor, delirium; adynamic fevers are particularly characterized by delirium; but what to me is an unequivocal proof of an impaired energy of the brain being an essential condition in delirium, is that since I have adopted, instead of the antiphlogistic, an infinitely more rational, and a very much more successful, system of practice, I seldom meet with delirium. That delirium does occur in acute phrenitis, previously to any visible sign of impaired energy, especially in cases originating in strong mental emotion, is certain; but the occurrence of delirium mostly depends upon the management of the case.

In taking leave of Investigator, I earnestly entreat that he will make trial of the "new doctrine;" he will then ascertain for himself whether the truth is in the new or in the old doctrine. I beg to remind him, that unless he makes a practical investigation into this important subject, he falls very short of the character of an Investigator. In the event of his doing so, it is requisite to apprise him that the mild character which inflammatory diseases will assume under the new mode of practice, will very probably induce him, for some time, to conclude that he has not met with a case of sufficient severity to be deemed a fair opportunity of trial; but he will at length suspect that the mild form which the inflammation assumes is to be ascribed to the merits of the "new doctrine," when he will be, perhaps, more sanguine than myself in the inquiry whether the great mortality attending cases of inflammation, and of fever, is attributable to the nature of the disease or to the nature of the antiphlogistic system of treatment.

I am, sir,

Your obliged servant,

HENRY SEARLE.

Kennington, June 24, 1837.

GROSS MISREPRESENTATION.

To the Editor of the Medical Gazette.

SIR,

IN the last number of your valuable journal you have inserted a gross and false libel on my professional and private character, in a letter from Mr. Hardy, of Gibson-square, Islington, relative to my

purchase of certain premises from that veracious person. He states that I represented myself to him "simply as a chemist and druggist, and pledged my honour I should only act as such." I never represented myself as a mere chemist and druggist. So far from this being the truth, I told him I should not be restricted in any way, and gave him a week to consider of the matter; at the end of which time he said he would wave all objections.

In further proof of my statement, I inclose you a copy of the agreement between us, drawn up by Mr. Hardy himself, in which there is no restriction mentioned, nor any allusion whatever made to my pledging myself to act as a chemist and druggist, and not as a general practitioner, which Mr. Hardy would have inserted if such were the case. You will also perceive that he has disposed of what *he says* he purchased for "several hundred pounds," for the sum of 30*l.* sterling, for house, fixtures, bottles, drugs, &c. &c.; and for this mighty sum does the *honourable* Mr. Hardy, who was never guilty, according to his own statement, of any fraudulent trick, &c. dispose of his valuable interest.

Now, sir, Mr. Hardy was only a yearly tenant, for which he paid the several hundred pounds, and was so extremely popular in the neighbourhood, that I was about to take the next house to his residence.

I shall not further comment upon Mr. Hardy's conduct and letter, and am perfectly contented to leave your readers to form their own opinion on the matter between us.

I need scarcely add that I expect, as a matter of justice, that as you inserted an attack on my character, you will insert my reply.—I am, sir,

Your obedient servant,

FREDERICK DAWSON,

Licentiate of the Society
of Apothecaries.

3, Union-Place, Lower-Road, Islington,
June 29, 1837.

[The copy of the "memorandum of agreement" forwarded to us contains nothing about the restriction alluded to, either one way or the other. Having now allowed both sides of the question to be heard, we must decline inserting any thing further unless in the form of advertisement.—E. G.]

COUNTY INFIRMARIES IN IRELAND.

To the Editor of the Medical Gazette.

SIR,

As a meeting of the Royal College of Surgeons in Ireland is convened for this day,

to take into consideration the petition of the physicians lately presented to parliament, I think it right to apprise you how matters stand between them.

By law, eligibility to the medical superintendence of county infirmaries is at present confined to members of the College of Physicians; it may therefore be presumed that it was the intention of the legislature that, in at least some cases, such medical superintendents should be appointed. Eligibility to the surgical superintendence is also confined to the members of the Irish College of Surgeons. The governors, however, suppose that the former appointment is discretionary, and the latter obligatory. Hence they never appoint a physician, and they always appoint a surgeon, and sometimes two surgeons, neither being a member of the College of Physicians. Now it can be proved that the majority of the patients received into such infirmaries labour under *medical* diseases; even the surgeons of those infirmaries admit that the gross number of what they call medical cases exceeds two-fifths of the entire.

The question, then, is (without looking to the interests of the respective Colleges), whether the Governors ought to be allowed to appropriate 200*l.* to the use of the surgeon in future elections, or be compelled to act more in accordance with the objects of the legislature, by dividing the salary between a physician and a surgeon (for it has not been proposed to dispense with the latter). To determine this matter let the three contingencies be considered.

1st. Whether, in case of the attendance of both the physician and surgeon in their respective departments, as is the case in all metropolitan institutions, the patients would not be better cared for than at present.

2dly. Whether, during the absence of the surgeon whilst engaged in private practice (often for days), it would not be better that his apprentice should look after the burns, fractures, &c. only, and that the medical patients should be under the care of the physician, than that the said apprentice should be both physician and surgeon for the time being; the medical cases being often any thing but matters of course.

3dly. Whether, in case of the absence of the physician, from illness, professional engagements, &c. things would not be managed after all as well as at present.

In both cases the expense to the county is the same.—I am, sir,

Your obedient servant,

M. D., T. C. D.

Dublin, June 27, 1837.

SUGGESTIONS

FOR

MEDICO-PAROCHIAL REMUNERATION.

By F. H. SANKEY, Esq.

Wingham.

[Communicated by Mr. Rumsey.]

I AM inclined to think that a payment of a fixed sum per case is the most eligible way, as then the amount of remuneration will always bear some proportion to the amount of services rendered. I am not prepared to say what that sum should be, as it should, of course, vary with the density of the population, and the greater or less distance at which the patients are situate from the medical man. The knowledge that a certain expenditure is caused by every order that is given, acts as a check on the relieving officer or overseer, and prevents that indiscriminate giving of orders which was the great cause of driving all the poor to the "parish doctor" under the old system, while the smallness of the amount does not prevent the order being given to the real pauper as soon as he is taken ill. The difficulty is to fix the amount; but I think in general 10*s.* per order would be sufficient remuneration, provided that in every case of illness, of long standing, the order should be renewed every three months. This I think would be better than fixing a larger sum, as in some small parishes there might be severe chronic cases, requiring a good deal of medicine (if not of attendance), and perhaps very few acute or epidemic cases to counterbalance them. On the contrary, if the sum, per case, was high, one family labouring under scarlatina or measles (as they would have an order for every individual, however slight the disease might be) would amount to what the Guardians would consider too high a remuneration. I do not think that the plan of providing drugs from a different source would be any improvement, unless in towns. I am satisfied that in remote country districts it could not always be accomplished.

We have two *well-regulated* Medical Provident Societies in this neighbourhood*, not established according to the recommendation of the Poor-Law Commissioners, and I am satisfied, in spite of all that has been said against them, that they are acting well for the medical man and also for the poor: the numbers who belong to them are increasing every year.

* The subscriptions of the poor to these institutions are three, four, or even *five* times the amount of those to the Medical Clubs established by the Poor-Law Commissioners.—H. W. R.

PHENOMENA IN A DECAPITATED BODY.

EMISSION OF SEMEN.

VALENTIN received the head and body of a man aged 26, half an hour after the execution. The blood still flowed, partly in jets, from the several vessels of the neck; the pupil was still sensible to changes of light and mechanical stimuli; the muscles when cut contracted with tolerable energy. The most vivid ciliary motions were perceptible in the mucous membrane of the trachea and nose; but too much time was lost to be able to see them in the ventricles of the brain, though the minute capilli in the epithelium were clearly perceived. Semen containing very lively animalcules in great numbers, was found at the orifice of the urethra, a phenomenon which Vogt, who was present at the examination, had observed in five other persons who were beheaded, and which he does not doubt arises from the sudden violent contraction of all the muscles, with those of the seminal vesicles, at the instant of the division of the cord.—*Valentin, Report. für Anatomie u. Physiol. Bd. i. p. 275.*

EUPHRASIA OFFICINALIS.

THIS pretty little plant, the common Eyebright, has long been in high repute among the common people of most parts of Europe, as a remedy in eye diseases. In a late number of Hufeland's journal, which is now continued by his son-in-law, Dr. Osann, there is a paper, by Professor Kranichfeld, on its virtues. It has been very extensively employed by him, and found particularly useful in catarrhal inflammations of the eye. He has found its use to be also very beneficial in other diseases, such as cough, hoarseness, earache, and headache, which have supervened in catarrhal affections.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, June 29, 1837.

William Paley, Easingwold.
Charles Heaton, Endon near Leek.
Samuel Lovett, London.
Mark Overton, York.
James Bainbridge Baxter, Sunderland, Durham.
Thomas Gabriel Bush, Bradford, Wilts.
William Purdy, Martham, Norfolk.
Charles Parker Mann, Colchester.
Charles Potter, Chipping Ongar.

James Joseph Dolman, Melbourne, Derbyshire.
Henry Armstrong Rawlins, Lincoln.
Thomas Harper Whittaker, Bingley, Yorkshire.
James Harmer, Birmingham.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, June 27, 1837.

Abscess	1	Hooping Cough . . .	19
Age and Debility . .	37	Inflammation . . .	19
Apoplexy	5	Bowels & Stomach .	1
Asthma	11	Brain	2
Childbirth	3	Lungs and Pleura .	5
Consumption	53	Influenza	1
Convulsions	28	Insanity	3
Croup	1	Liver, diseased . .	3
Dentition or Teething	13	Measles	11
Dropsy	13	Mortification . . .	3
Dropsy in the Brain .	9	Paralysis	4
Dropsy in the Chest .	2	Small-pox	5
Fever	14	Spasms	1
Fever, Scarlet	4	Thrush	1
Fever, Typhus	3	Unknown Causes .	172
Gout	1		
Heart, diseased	2	Casualties	10

Increase of Burials, as compared with }
the preceding week } 116

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>June.</i>	THERMOMETER.		BAROMETER.	
Thursday . 15	from 39 to 75		29.88 to 29.90	
Friday . . 16	43	76	29.89	29.88
Saturday . 17	45	73	29.84	29.86
Sunday . . 18	46	65	29.77	29.77
Monday . . 19	45	73	29.84	29.85
Tuesday . . 20	40	75	29.85	29.86
Wednesday 21	47	74	29.94	30.05

Wind, S.W.

Generally clear, except the evening of the 16th and morning of the 18th, with rain.

Thunder and lightning on the afternoon of the 18th.

Rain fallen, .25 of an inch.

Thursday . 22	from 39 to 75		30.18 to 30.21	
Friday . . 23	41	77	30.24	30.23
Saturday . 24	39	80	30.17	30.08
Sunday . . 25	41	79	30.04	Stat.
Monday . . 26	46	71	30.10	30.15
Tuesday . 27	*36	68	30.14	30.12
Wednesday 28	*32	71	30.11	Stat.

Prevailing wind, Easterly.

Generally clear.

* The extreme cold of the last two days is worthy of particular remark.

CHARLES HENRY ADAMS.

NOTICE.

THE account of Mr. Whitehouse's forceps would be unintelligible without the woodcut, and the block sent is one of which it is impossible for us to make use. The packet has been left for him at Messrs. Longman's.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, JULY 8, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, ESQ., F.L.S.

LECTURE LXVI.

Cucumis Colocynthis.

History.—This is supposed to be the plant termed in the Old Testament the *wild vine* (literally the *vine of the field*), whose fruit the sacred historian calls *pakkoth*, a word which our translators have rendered *wild gourd*. This plant was employed in medicine at a very remote period. Hippocrates calls it *κολοκυνθίς ἄγρια*, that is, *cucurbita sylvestris*, or the *wild gourd*. Dioscorides and Pliny term it simply *κολοκυνθίς*, or *Colocynthis*.

Botany.—It is an herbaceous annual, a native of various parts of the world. Thus it grows in Turkey, the islands of the Archipelago, Syria, Coromandel, Japan, the Cape of Good Hope, and Nubia. In his travels through the latter place, Burckhardt observes that “the ground was covered with the *coloquintida*, a plant very common in every part of this desert.” It is cultivated in Spain.

The root is annual, white, and branching. The stems procumbent, slender, angular, branched, and hispid. The leaves are cordate-ovate, multifid, on long petioles; of a bright green on the upper surface, paler and clothed with whitish hairs underneath. Opposite each leaf is a filiform branching tendril. The flowers

are monœcious, axillary, solitary, and pedunculate; the calyx is five-toothed; the corolla five-parted, yellow, with greenish veins. The males have three short free stamina, two of which have doubly bent anthers; so that five anthers might be said to exist in each flower. The female flowers have filaments without anthers; an inferior, round, smooth ovarium; a short cylindrical style, and three stigmata. The fruit is a round, smooth, yellow pepo, of the size of an orange; the cortical portion is thin but solid; the pulp is very bitter: hence the terms *bitter apple*, *devil's apple*, and *gall of the earth*, applied to this plant. The seeds are numerous, oval, and flat.

The remarks made in the last lecture on the Linnean class and order of *Momordica Elaterium* apply equally to this plant.

Preparation of the fruit.—The fruit is gathered in autumn, when ripe and yellow; and in most countries is peeled and dried, either by the sun or in a stove. They are imported from the Levant (in chests), Spain, and Mogadore.

Varieties.—Two kinds of *Colocynth* are distinguished in commerce:—

1. *Turkey Colocynth.*—This is imported from the Levant in the *peeled* state. The usual size of each pepo is about two or three inches in diameter; the shape is more or less globular, according to the evenness with which the rind has been removed, and the degree of contraction in drying; the colour is white, or pale yellowish white. The pulp is light, spongy, porous, tough, inodorous, but very bitter. Each pepo contains a large number of seeds. One hundred parts by weight are said to consist of 28 parts pulp, and 72 parts seeds.

2. *Mogadore Colocynth.*—This variety is imported from Mogadore in the *unpeeled* state; but the quantity brought over is small. It is employed by druggists for their shew-bottles. The pepo is larger

than the Turkey variety, and is covered with a yellowish smooth rind.

In northern India the fruit of *Cucumis pseudo-Colocynthis* (Royle) is substituted for, and, indeed, from similarity of appearance and effects, is considered to be, the true *Colocynth*. Its shape, however, is very different, being oblong, and not round, as in the true *Colocynth*.

The seeds of *Colocynth* are usually described as being white, perfectly bland, and highly nutritious. Captain Lyon states they constitute an important article of food in northern Africa. "The seeds of *Cucurbitaceæ*," says Decandolle, "do not participate in the qualities of the pulp which surround them; they are bland, demulcent, of an oily nature, and susceptible of easily taking the form of an emulsion." These statements do not apply to the seeds as met with in the *Colocynth* pepo of commerce. Some of the seeds are indeed white, or rather yellowish white, but a large portion of them are brownish. In a drug warehouse I once met with two hogsheads of these seeds, one of the white, the other of the dark-coloured kind; the former were called *white*, the latter *black Colocynth* seeds. I never tasted *Colocynth* seeds devoid of bitterness, though the white ones possess this property in a much less degree than the dark ones. So intensely bitter are the latter that they have been imported in large quantities with the view to prepare an extract from them as a substitute for that of the pulp. By digesting them in repeated portions of boiling water, and afterwards well washing them, the greater part of the bitterness may be extracted. Hillefeld (quoted by Marx in his "*Die Lehre von den Giften*") found that a scruple of the seeds purged a dog.

Composition.—The pulp was analysed by Meissner in 1818. Subsequently, Braconnot analysed the watery extract; and in 1824, Vauquelin examined the nature of the active principle. The constituents, according to Meissner's analysis, are as follows:

Bitter matter (<i>Colocynthin</i>)	14.4
Extractive	10.0
Bitter fixed oil	4.2
Resin insoluble in æther	13.2
Gum	9.5
Bassorin (Berzelius calls it pectic acid)	3.0
Gummy extract (obtained from the ligneous fibre by potash)	17.0
Vegetable jelly	0.6
Phosphate of lime and magnesia	5.7
Ligneous fibre	19.2
Water	5.0
	101.8

Purgative principle of Colocynth.—The ac-

tive principle of *colocynth* is extractible by water and alcohol. By digesting the watery extract of *colocynth* in alcohol, and evaporating the tincture thus procured, we obtain a mass composed, according to Vauquelin, of a bitter principle and acetate of potash. A little water readily dissolves the latter, leaving the bitter resinoid matter to which the name of *Colocynthin* has been applied. It is a yellowish brown, translucent, brittle substance, dissolving in water, but much more readily in alcohol. The aqueous solution is precipitated by the tincture of galls, and by some metallic solutions.

Physiological effects: (a.) *On animals generally*.—The animals on whom the action of *colocynth* has been examined, are horses, dogs, sheep, and pigs. On dogs its operation appears to be analogous to that on man. Thus Viborg states that two drachms caused in a dog violent vomiting and purging; and Orfila has shown that three drachms introduced into the stomach (the œsophagus being tied) are capable of causing death. It is remarkable, however, that its operation on horses is comparatively slight, at least according to the testimony of Viborg, Bourgelat, and Moiroud. The last-mentioned writer says he has given four drachms to a small horse without exciting the least disorder; and he adds that another cucurbitaceous plant (briony) has likewise very little effect on the horse.

(b.) *On man*.—Thunberg tells us that at the Cape of Good Hope the *colocynth* pepo, when pickled, is eaten both by the natives and colonists. This statement is so opposed to common experience, that I know not how it is to be explained. Some have attempted to account for the inertness of the fruit by supposing that the pickling process destroys the activity of the pulp, while others have suggested that as the fruit is used in the immature state, it is possible the drastic principle may not have been developed. Neither explanations are satisfactory, and I confess, were the statement made by an authority less respectable than Thunberg, I should strongly doubt its correctness.

In *small doses*, *colocynth* quickens the vermicular movements of the intestines, especially the colon and rectum, and increases the secretions and exhalations of the alimentary canal. Moreover it appears to stimulate all the abdominal viscera, and not unfrequently to produce diuresis. In *larger doses* it is apt to vomit; it purges violently, causing copious mucous or watery, and sometimes even sanguineous, evacuations, and giving rise to violent abdominal pain: in fact, it acts as a drastic purgative and hydragogue. In *very large*

doses it operates as an acrid poison, producing gastro-intestinal inflammation. I must refer you to the works of Christison, Orfila, and Wibmer, for cases illustrative of its poisonous action, of which many are recorded.

Uses.—Alone, colocynth is not very frequently administered, but in combination it is one of the most commonly employed cathartics. The principal uses of it, whether in the simple or combined state, are the following:—

1. *As a purgative to keep the bowels regular.*—A pill made of the compound extract of colocynth is one of the most commonly employed cathartics for keeping the bowels regular, in habitual costiveness, among both medical men and the public; it operates mildly, certainly, and effectually. I have known individuals who have taken it for years without the least unpleasant consequences. The simple extract is sometimes employed as a substitute, but is less advantageous.

2. *As a purgative in alvine obstructions.*—In some cases of obstinate constipation, accompanied with extreme irritability of stomach, the compound extract of colocynth is invaluable. I have frequently seen a pill, made of this substance, retained by the stomach, and produce the desired effect, when a variety of other purgatives had been tried but were rejected. Occasionally this extract, rubbed down with soap and water, constitutes a most useful enema;—a formula for which we have in the London Pharmacopœia.

3. *As a hydragogue.*—In dropsical affections, colocynth has been used on account of its hydragogue properties. But in this country it is less frequently employed for this than for other purposes: various other hydragogues (especially elaterium and jalap) being usually preferred.

4. *As a counter-irritant or revulsive.*—In affections of the brain—such as apoplexy, or a tendency to it, paralysis, insanity (whether in the form of mania or melancholia), violent headache, &c.—a drastic purgative like colocynth is frequently of great service, and we explain its beneficial influence on the principle of counter-irritation or revulsion.

5. *As an anthelmintic.*—Colocynth has been also employed to expel intestinal worms, particularly the flat or tape kind. For this purpose it may be administered internally or applied externally.

6. *As a diuretic.*—According to Eberle, “Hufeland considers it as the most effectual diuretic we possess, in persons of a cold and sluggish habit of body. His mode of prescribing it for this purpose, is to boil two drachms of the colocynth in a quart of beer, down to a pint; of which

one or two tablespoonfuls are to be taken every day.”

7. *As an emmenagogue.*—In some cases of obstructed menstruation, benefit is obtained by the use of those drastic purgatives which act powerfully on the rectum, as colocynth.

Administration.—The dose of colocynth in powder, is from two to eight or ten grains, mixed intimately with some mild powder—as gum or starch. It is, however, rarely given in this form.

A decoction of colocynth is not often employed in this country, and there is not a formula for it in any of the British Pharmacopœias. If, however, it were required, we might prepare it according to either Hufeland's formula, just mentioned, or Buchhave's formula, which is as follows:—Boil two drachms of colocynth in a pint of water for six minutes, then strain, and add two drachms of the spirit of sulphuric æther and an ounce of syrup of orange peel. The dose is a tablespoonful three times a-day. The extract of colocynth is a useful purgative in doses of from ten to thirty grains. The compound extract, however, is the most frequently employed preparation. Besides colocynth, it contains aloes, scammony, cardamoms, and soap. It is given in doses of from five to thirty grains, very frequently in combination with calomel. It is this extract which is, or rather ought to be, sold in the shops under the name of *pill cochia*, (*pilula coccia*, or *pilulae cochiae minores* of Galen). I have already alluded to the *enema colocynthidis* of the London Pharmacopœia, which is prepared with this compound extract. We have no formula for a *tincture* of colocynth in the British Pharmacopœias. The tincture of the Prussian Pharmacopœia is prepared by digesting one ounce of colocynth pulp and a drachm of star-anise in a pound of rectified spirit. The dose of the filtered liquor is from ten to twenty drops.

On the *intraleptic* or *epidermic* method of employing medicines, Dr. Chrestien uses colocynth as follows—twenty grains of the powder, or sixteen drops of the tincture, mixed with hogslard, and rubbed into the abdomen. In three insane patients these frictions caused an increased discharge of urine, tranquillity and sleep, and after twelve or sixteen frictions, a complete cure. In a fourth case Dr. Chrestien rubbed three drachms of powdered colocynth mixed with lard into the abdomen; the second rubbing removed the colicky pains, and produced frequent and copious evacuations by stool: after the third friction the patient completely recovered.

Antidotes.—In a case of poisoning by colocynth, the treatment will be precisely

the same as for poisoning by elaterium, described in the last lecture.

SIMARUBACEÆ.

In this order there are two genera to be noticed—namely, *Quassia* and *Simaruba*.

Quassia amara.

History.—Fermin mentions that about the year 1714 the flowers of this tree were highly valued at Surinam on account of their stomachic properties. In 1730, the root is said to have been found in the collection of Seba, a celebrated spice-dealer of Amsterdam. Haller tells us that a relative of his took quassia for an epidemic fever in 1742, and that it was then a well-known medicine. In 1763 Linneus published a dissertation on this medicine, in which he states that he received specimens of the tree from one of his pupils, C. G. Dahlberg, a military officer and counsellor at Surinam, who had become acquainted with the medical qualities of the root through a black slave named Quassia, who employed it as a secret remedy in the cure of endemic malignant fevers of that place. From this circumstance Linneus named the tree in honor of the slave, *Quassia*. Rolander, who returned from Surinam in 1756, tells us he saw and conversed with this black, who was almost worshipped by some, and suspected of magic by others. Rolander found him to be a simple man, better skilled in old women's tales than in magic.

Botany.—*Quassia amara* is a shrub, with hermaphrodite flowers, pinnate leaves, with an odd leaflet, winged petioles, and large red flowers in terminal racemes. It belongs to class *Decandria*, order *Monogynia*.

All parts of the plant are intensely bitter. The wood of both stem and root has been employed in medicine under the name of *Lignum Quassia Surinamense*, but it is rarely met with in this country. What I have received under this name is in cylindrical pieces (covered by a thin, greyish-white, and bitter bark), not exceeding two inches in diameter, very light, without odour, but having an extremely bitter taste.

The chemical and medical properties of this wood agree with those of the wood of the next species.

Simaruba excelsa.

History.—In consequence of the scarcity of the wood of *Quassia amara*, that of *Simaruba excelsa* has been employed as a substitute. We may add another reason why the latter is employed in this country: it is the produce of one of our own colonies—Jamaica.

Botany.—This tree was termed by Swartz

Quassia excelsa, by Wright *Quassia polygama*. But on account of its polygamous flowers, Decandolle has removed it from the genus *Quassia* to that of *Simaruba*, but has retained its specific name *excelsa*. It is somewhat remarkable that the compilers of the London Pharmacopœia have not thought proper to follow Decandolle in this alteration.

Simaruba excelsa is a tall and beautiful timber tree of Jamaica, sometimes attaining a height of 100 feet. It has polygamous, pentandrous, paniculated flowers, a trifid stigma, pinnate leaves, with opposite petioled leaflets.

Considered by itself, this plant should be placed in class *Polygamia*; but as the Linnean writers have regarded it as a species of quassia, they have referred it to class *Decandria*, order *Monogynia* (because quassia amara belongs to this class and order), as if its flowers were hermaphrodite and decandrous, whereas, as I have before mentioned, they are polygamous and pentandrous.

Properties of quassia wood.—The wood of this tree constitutes the *Lignum Quassia* of our shops: it is termed by continental pharmacologists *Lignum Quassia Jamaicense*, in order to distinguish it from the wood of *Quassia amara*. It is imported from Jamaica in billets of various sizes (sometimes a foot in diameter, and several feet in length), covered externally with a whitish smooth brittle bark. The wood is white, but by exposure to the air, becomes yellowish; it has no odour, but a most intensely bitter taste. Floors made of quassia wood retain for many years their bitterness.

I am not acquainted with any regular analysis of this wood; but it appears from the experiments to which it has been subjected, to consist of—

Bitter matter (*quassin*).

A trace of ætherial oil.

Gum.

Woody fibre.

Oxalate, tartrate, and sulphate of lime.

Chlorides of calcium and sodium.

An ammoniacal salt.

Nitrate of potash.

Bitter principle of quassia: Quassin.—Dr. Thomas Thomson applied the term *quassin* to the watery extract (prepared at a low heat) of this wood. It was a brownish yellow substance, very soluble in water and alcohol, retaining a certain degree of transparency, and continuing ductile for some time, but at length becoming brittle. Nitrate of silver and acetate of lead are the only agents that precipitate its watery solution, unless, indeed, the solution be very concentrated, in which case chloride of tin also causes a precipitate.

Winckler says, that from the alcoholic extract he has obtained *quassin* in fine white prismatic crystals, which are soluble in water, much more so in alcohol, and very slightly only in æther. Tannic acid and perchloride of mercury cause white precipitates with the aqueous solution.

Physiological effects: (a.) On animals.—From recent experiments it appears that quassia wood acts on animals as a narcotic poison. Dr. Wright tells us that no insect will live near cabinet work made of it. It has been long known that an aqueous infusion of this substance was an excellent fly-poison; but Härtl, one of Buchner's pupils, has lately shown that it also possesses poisonous properties with respect to the larger animals. Thus he found that a rabbit, into a wound of whose thigh a grain of the alcoholic extract of quassia had been introduced, lost his power and liveliness, and died on the third day. A second experiment made on an older and stronger animal, was attended with the same results. No pain appeared to be experienced, nor were there any marks of irritation or inflammation observable after death. Kurtz mentions that complete paralysis of the hind extremities of a dog affected with the mange (*Fettraude*), was brought on by washing the ulcers with decoction of quassia: in seven hours, however, it disappeared.

These experiments seem to show that the bitter principle of quassia possesses properties somewhat like those of the *Amer* of Welther.

(b.) *On man.*—In the usual medicinal doses, quassia operates as a stomachic and tonic—that is, it is bitter to the taste, promotes the appetite, and assists the digestive functions. It is devoid of all irritant, stimulant, and astringent properties; and has been, therefore, sometimes taken as a type of the simple or pure bitters. It is more powerful than, but in other respects analogous to, gentian in its operation. “We can find nothing in this wood,” says Dr. Cullen, “but a pure and simple bitter;”—and he goes on to observe that he believes it to be an excellent substance, capable of doing all that any pure and simple bitter can do, but no more.

I have already stated, that, according to some recent observations, quassia acts on the lower animals as a narcotic poison. Now it is interesting to know whether it has any similar operation with respect to man. I have employed, and seen others administer it most extensively, but I never had grounds for suspecting any effect of the kind alluded to. Yet some have observed effects which certainly seem to favour the notion that quassia possesses a specific influence over

the cerebro-spinal system. In females endowed with extreme susceptibility, I have seen (says Barbier) involuntary movements of the muscles, hasty movements of the arms and legs, produced by the aqueous infusion of quassia. Kraus says that the continued use of quassia brings on amblyopia (dimness of sight); and Richter, in the supplementary volume to his “*Ausführliche Arzneimittellehre*,” refers to some observations of Kurtz, that the long-continued use of quassia by man brings on amaurosis.

Like many other substances, quassia mixed with dead animal matter checks putrefaction; and hence it is termed anti-septic. Ebeling, many years ago, performed several experiments to determine its power in this respect, compared with other bitters, and found it much superior to several of them.

Uses.—The uses of quassia are for the most part analogous to those of other bitters. Thus we exhibit it in *dyspepsia*, depending on a debilitated state of the stomach; in *intermittent fevers* also it is admissible, though few, I fancy, will resort to it when they can procure cinchona or quina. In *gout* also it has been highly spoken of.

Kraus suggests that it may be useful in intolerance of light, and other diseases of the eye, accompanied with great sensibility without fever or congestion; yet only (he adds) as an adjuvant to hyoscyamus and belladonna.

An infusion of quassia has been proposed as a wash in compound fractures, wounds, and ulcers, to keep off insects. In its use, however, we should bear in mind the effect which Kurtz states was produced on the dog by a wash of this kind.

Administration.—Quassia is, I believe, never administered *in substance*: its dose, however, would be ten or twenty grains. The aqueous *infusion* is the preparation commonly employed: it may be given in doses of one or two fluid ounces. It has an advantage over some other vegetable bitter infusions, that we can add to it the ferruginous salts without producing any alteration in its colour. There is a *tincture* of quassia in the Dublin Pharmacopœia, prepared by digesting an ounce of the raspings of quassia-wood in two pints of proof spirit. The dose is half a drachm to two drachms.

Simaruba officinalis.

History.—The bark of this species was first sent to Paris from Guiana in 1713, as the product of a tree called by the natives *Simarouba*, which they had employed with good success in dysentery.

The first authentic botanical account of the tree was published by Dr. Wright in 1778.

Botany. — *Simaruba officinalis* (the *Quassia Simaruba* of Wright, and the *Simaruba amara* of Aublet) is known in Jamaica by the names of the *Bitter* or *Mountain Damson* or the *Stave-wood*. It is a tree of considerable height, with monœcious flowers, the males having ten stamina, the females a five-partite stigma; the leaves are abruptly pinnate, the leaflets being alternate, somewhat petioled, — on their under surface pubescent.

If considered without reference to other species, it would be placed in class *Monœcia*, order *Decandria*, of Linneus's arrangement; but it is usually put in class *Decandria*, order *Monogynia*.

Physical properties of the bark. — The *cortex simarubæ* of the shops is the bark of the roots, and is brought from Jamaica in bales. It occurs in broad, folded, very fibrous pieces, several feet long, which are externally rough, warty, and marked with transverse ridges. The epidermis is of a greyish or whitish yellow colour; beneath this the bark is darker, and of a yellowish brown colour; on the inner surface it is pale yellow. It is odourless, but has a bitter taste.

Composition. — The following are the constituents of the bark, according to Morin:—

Brittle resin.

An aromatic volatile oil, having the odour of benzoin.

Quassin.

An ammoniacal salt.

Malic and traces of gallic acid.

Malate and oxalate of lime.

Ulmin and lignin.

Oxide of iron and silica.

This analysis, however, is certainly very imperfect: no notice is taken of the large quantity of mucilaginous matter which *Simaruba* bark contains, and which Pfaff says constitutes one-fourth of its weight.

Physiological effects. — The effects of *Simaruba* are those of a stomachic and tonic, which I have so repeatedly had occasion to point out. On account of the quantity of gummy matter which it contains, it is placed by some pharmacologists among the mucilaginous bitters, — such as *Calumba* and the *Cetraria Islandica*. Considered in relation to other tonics, we find it differing from some (*ex. Cinchona*) by the absence of any astringent property; from *Angustura*, with which it agrees in many respects, by its much less stimulant or balsamic quality; from *Quassia*, by its being more demulcent or mucilaginous, and less bitter.

In full or large doses it is very apt to irritate the alimentary canal, and thereby to cause vomiting and purging. From this circumstance Desbois de Rochefort has classed it among emetics; and Bichat proposed it as a substitute for *ipecacuanha*. It is also said to promote perspiration and urine. Analogy would lead us to suspect some narcotic property in *Simaruba*, but, beyond the remark made by some that it “disposes the patient to sleep,” I am unacquainted with any evidence in favour of this suspicion. Negroes, says Dr. Wright, are less affected by it than white people.

Uses. — It has been principally celebrated as a remedy for *dysentery* (from which circumstance the Germans term it *Ruhrrinde*, or the *Dysenteric bark*); but it is now nearly obsolete. If employed, it is only admissible in the latter stages, and even then has no power over this disease beyond that possessed by other analogous tonics. It has also been employed in *diarrhæa*. Like other vegetable tonics, it may be employed in some forms of *dyspepsia*, in *intermittents*, &c.

Administration. — The dose of *Simaruba* in powder is, as a tonic, about ten or twenty grains, — as an emetic, from one to two or three scruples; but on account of the difficulty of powdering it, it is rarely given in this form. In the *Pharmacopœia* there is a formula for the *infusion*, which is given as a tonic in doses of one or two fluid ounces; in larger quantities it is emetic.

ERICACEÆ.

This family contains only one plant of which I have to speak, — namely,

Arctostaphylos Uva Ursi.

History. — It is very probable, I think, that this is the plant referred to by Galen, under the name of *Ἀρκτου σταφυλή*, or *Bear-berry*. Some have supposed that it is the *Idæas ριζης* of Dioscorides, and the *Idæa* of Pliny; but this is very unlikely, since the leaves do not resemble those of *Ruscus aculeatus*, which both these writers tell us those of *Idæa* do.

Botany. — The *Arctostaphylos Uva Ursi*, or Red Bear-berry, is an indigenous shrub, growing on dry stony alpine heaths. Its stem is procumbent, long, and trailing. The evergreen leaves are alternate, obovate, entire, thick, rigid, and veiny; their under surface is paler than the upper; their margins revolute. The flowers are in small crowded racemes, and consist of many-coloured bractææ, a five-toothed calyx, an urceolate rose-coloured corolla, ten stamina, and one pistillum. The fruit is a globose, smooth, scarlet berry, seldom containing more than four or five seeds.

This plant belongs to class *Decandria*, order *Monogynia*, in the Linnean arrangement.

Officinal part.—The officinal part of the plant is the leaves, which are known in the shops as the *foliæ uvæ ursi*. They are of a dark green colour, have a bitter very astringent taste, but no odour.

Composition.—These leaves were analysed by Melandri and Moretti in 1809, and by Meissner in 1827. The latter chemist gives the following as their constituents:—

Gallic acid	1·2
Tannin	36·4
Resin	4·4
Oxidized extractive, with some citrate of lime.....	0·8
Gum, with some malate of lime and soda, and traces of tannin and common salt	3·3
Chlorophylle	6·3
Gum (pectic acid?) extracted by potash	15·7
Extractive obtained by potash..	17·6
Lignin	9·6
Water	6·0
	—
	101·3

It will be seen from this analysis that the quantity of astringent matter in the leaves is very considerable, and constitutes about one-third of their weight. Their aqueous infusion produces a bluish black precipitate with the ferruginous salts, and a copious precipitate of tanno-gelatin with a solution of isinglass.

Physiological effects. (a.) *On animals generally.*—Most animals refuse to eat this plant; there are, however, some few exceptions to this statement. Birds, it is said, will eat the berries; and Murray tells us that two kinds of insects feed on the plant, one of which (a species of *Coccus*) yields a crimson dye. Girardi found that an infusion of the leaves might be injected into the urinary bladder of animals with impunity; but when taken internally it excited vomiting, and contraction, and inflammation of the stomach.

(b.) *On man.*—The most obvious effects of Uva Ursi are those of a vegetable astringent and tonic; but the remarkable benefit frequently obtained by the use of it in affections of the urinary organs—a benefit not equally procurable by the use of other vegetable astringents—leads to the belief that Uva Ursi has some particular influence over these organs; but the only effect observable in healthy persons is an alteration of the colour of the urine (shewing that the colouring matter of the plant is absorbed), and a slight increase in the quantity of this secretion. As the

astringent principle of Uva Ursi has been detected in the urine, it is not improbable that part of the beneficial effects which this plant produces in affections of the mucous membrane lining the urinary organs may be owing to the local action of the tannin, in its passage through and from the kidneys.

Uses.—The principal use of this remedy is in *chronic affections of the bladder*, attended with increased secretion of mucus, but unaccompanied with any marks of active inflammation. Thus, in the latter stages of the well known disease called catarrhus vesicæ, after local blood-letting has been employed, the continued use of Uva Ursi is frequently most beneficial. Combined with hyoscyamus, says Dr. Prout, and persevered in steadily for a considerable time, it seldom fails to diminish the irritation and quantity of mucus, and thus to mitigate the sufferings of the patients.

Sir Benjamin Brodie, on the other hand, observes that “Uva Ursi has the reputation of being useful in some cases of chronic disease of the bladder, and in this [inflammation] among the rest. I must say, however, that I have been disappointed in the use of Uva Ursi, and that I have not seen those advantages produced by it which the general reputation of the medicine had led me to expect. I have seen much more good done by a very old medicine”—the root of the *Cissampelos Pareira*.

Such are the opposite statements on the effects of this remedy, by the two most eminent writers of the present day on diseases of the urinary organs. My own experience of it amounts to this: that in some cases the relief obtained by the use of it was most astonishing; whereas, in some other instances, the medicine was of no avail. When you exhibit it, always bear in mind that its astringent operation unfits it for acute cases, and that the alteration which it produces in the condition of the urinary organs is effected very slowly, so that to be beneficial it requires to be exhibited for a considerable period.

Administration.—Uva Ursi may be given in powder in the dose of a scruple to a drachm; or we may employ an infusion or decoction (the latter only is officinal), prepared with an ounce of the leaves to a pint and a half of water,—the dose being one or two ounces. “The powdered leaves of this plant,” says Dr. Prout, “are so bulky and disagreeable, that few stomachs will bear to persevere long enough in the use of the requisite quantity; and the same is pretty much the case with the infusion and decoction.” Hence he prefers the extract; this preparation may be given in doses of from five grains to ten or fifteen.

ARISTOLOCHIACEÆ.

This unimportant family contains only two genera to be noticed—namely, *Aristolochia* and *Asarum*.

Aristolochia longum and rotundum.

Hippocrates speaks of *Ἀριστολοχία* as a remedy for various uterine complaints: indeed its name was derived from the supposed beneficial influence of the plant in puerperal affections, being compounded of *ἄριστος*, very good, or best, and *λοχὸς*, a woman in childbed. Dioscorides mentions three kinds of *Aristolochia*, one of which he calls *round*, or *female*, and which Dierbach supposes to be *Aristolochia pallida*; a second, termed *long*, or *male*, regarded by Dierbach as *Aristolochia sempervirens*; and the third, also *long*, called *clematitis*, but which is not, according to Dierbach, the *Aristolochia clematitis* of modern botanists, but rather *Aristolochia bœtica*, or *A. altissima*.

In the shops are met with two kinds of *Aristolochia* root, distinguished by the names of *long* and *round*. The first is the root of *Aristolochia longa* of Linneus, a plant growing wild in the southern parts of Europe. This root is several inches long, and commonly one or two broad, and has a cylindrical form; its taste is bitter and acrid; its odour is strong and disagreeable, especially when the root is powdered. The round aristolochia of the shops is the root of *Aristolochia rotunda* of Linneus, and has a more rounded knobby form than the other kind. In other respects it agrees with the long aristolochia. The genus *Aristolochia* belongs to class *Gynandria*, order *Hexandria*, of the Linnean arrangement.

I am unacquainted with any chemical analyses of these roots worth quoting. Their principal constituents appear to be *extractive matter* and *starch*. Both roots are coloured bluish black by the tincture of iodine. The infusion is unchanged in colour, but is rendered feebly turbid, by the addition of chloride of iron; tincture of galls has no effect on it. Lassaigue mentions *ulmin* as a constituent of the long *Aristolochia*.

The effects of these two roots are stimulant and tonic. Their stimulant effects are supposed to be principally directed to the vascular and nervous systems of the abdominal and pelvic viscera, and more especially, it has been supposed, to the uterus; they are also said to be sudorific. They have been employed as emmenagogues in amenorrhœa. The dose is from a scruple to a drachm.

The round *Aristolochia* is one of the constituents of the celebrated *Portland powder for the gout*, the *pulvis antiarthriticus Ducis Portlandiæ vel Principis Mirandolæ* of German pharmacologists. “The cele-

brated Duke of Portland’s powder,” says Dr. Paris, “was no other than the *Dia-centaureon* of Cælius Aurelianus, or the *Antidotos ex duobus Centaureæ generibus* of Ætius, the receipt for which a friend of his Grace brought from Switzerland.” It consists of equal parts of Gentian, round *Aristolochia*, Germander, Groundpine, and lesser Centaury, powdered and mixed together. The dose is a drachm.

Aristolochia Serpentaria.

History.—The first writer who distinctly mentions *Virginian snake-root*, or *snake-weed*, is Thomas Johnson, an apothecary of London, in his edition of Gerard’s Herbal, published in 1633.

Botany.—*Aristolochia Serpentaria* is an herbaceous plant, with a perennial root, and several stems, which are usually eight or ten inches high. The leaves are alternate, cordate-oblong, acuminate, and three-nerved. The flowers are monochlamydeous, of a dull brownish purple colour. The fruit is a six-celled round capsule. It is a native of the United States, especially of the Middle, Southern, and Western States, abounding in the valley of Ohio, and in the mountainous regions of the interior parts.

Collection and properties of the root.—The root is collected in Western Pennsylvania and Virginia, in Ohio, Indiana, and Kentucky. It is imported in bales, usually containing about 100 lbs. As met with in the shops, it consists of a tuft of long, slender, yellowish or brownish fibres, attached to a long contorted head or caudex. The odour is aromatic, the taste warm and bitter.

Composition.—It was analysed by Bucholz in 1807, by Chevallier in 1820, and by Peschier in 1823. The constituents, according to Bucholz, are—

Volatile oil	0·50
Greenish yellow soft resin	2·85
Extractive matter	1·70
Gummy extractive	18·10
Lignin	62·40
Water	14·45

100·00

The *volatile oil* appears to be one of the active constituents of the root. Grassmann obtained only half an ounce from a hundred pounds of the root. Lewis describes it as being pale coloured, and having considerable smell and a very strong taste.

The *bitter principle* of the root (*extractive* of Bucholz?) called by Chevallier the *yellow extractive*, is another of the active principles of the root. The latter chemist regards it as analogous to the *quassin* of Dr. T. Thomson.

Physiological effects.—The only experi-

ments made purposely to determine the effects of serpentary are those of Jörg and his pupils, who tried it both in the form of powder and infusion. From their statements it appears that in *small* doses, serpentary promotes the appetite; in *larger* ones it causes loss of appetite, nausea, flatulence, uneasy sensation at the stomach, and more frequent but not liquid stools.

It increases the frequency and fulness of the pulse, augments the heat of the skin, and promotes the secretions and exhalations generally. Furthermore, it would appear from the experiments before referred to, that there was disturbance of the functions of the brain, manifested by pain, sense of oppression in the head, with disturbed sleep. From these effects, serpentaria has been supposed to resemble, but to be much milder than, camphor.

Uses.—Serpentary was formerly termed alexipharmic, on account of its fancied power of curing the bite of a rattle-snake. It is now rarely employed, but has been much esteemed as a stimulant in *fevers*, both intermittent and continued.

Administration.—It may be given in powder, in doses of from ten grains to half a drachm. The dose of the *infusion* is one or two ounces; of the *tincture*, from one to three or four fluid drachms.

Asarum europæum.

History.—This plant was used in medicine by the ancients: it is termed by Dioscorides *Asagov*.

Botany.—It is an indigenous perennial, growing in mountainous woods in the northern parts of England. The numerous branching fibres which constitute the root of this plant arise from an underground stem or rhizome. The ærial stems are several from each rhizome; they are short, round, and simple, each bearing two kidney-shaped, obtuse, rather downy leaves, on long downy stalks; and one drooping flower, composed of a three-cleft superior calyx, green externally, purple internally; twelve stamina, whose filaments are free, and produced into a subulate point above the anthers, and one pistillum consisting of a six-celled ovary, a short columnar style, and a six-parted stigma. The fruit is a six-celled coriaceous capsule, containing many ovate seeds, composed of a minute embryo in cartilaginous albumen. The Linnean class and order of the plant are *Dodecandria*, *Monogynia*.

The leaves only are officinal in this country, but on the continent the root also is employed in medicine. Dr. Batty states that the plant is gathered for medical use in the woods near Kirkby Lonsdale, Westmoreland.

Composition.—Goerz published an ana-

lysis of the root in 1784; Lassaigne and Fenuelle another in 1820; Regimbeau a third in 1827; and Graeger a fourth in 1830. The constituents of the fresh root are, according to the latter authority (I quote from Kunze's "*Pharmaceutische Waaren kunde*,") the following:—

Asarin, or *asarite* (bitter principle of asarum).

Volatile oil.

Stearoptene (*asarum-camphor*.)

Resin.

Tannin.

Extractive.

Starch.

Albumen.

Citric acid.

Chloride potassium, phosphate and citrate of potash, and some other salts.

The active principles are the *bitter matter* and the *stearoptene*. In the analysis of the herb, no mention is made of volatile oil (*Nees*.)

Physiological effects.—Every part of the plant possesses acrid properties. Applied to the mucous membrane of the nose, it excites sneezing, increased secretion of mucus, and even a discharge of blood. Swallowed, it causes vomiting, purging, and griping pains. It is said also to possess diuretic and diaphoretic properties. Dr. Cullen has enumerated it in his list of diuretics, but expresses his doubts whether it possesses any specific power of stimulating the renal vessels.

Uses.—Asarabacca has been employed in medicine to excite vomiting, and as an errhine. As an emetic, it is now superseded by ipecacubana and tartarized antimony. As an errhine, to excite irritation and a discharge of mucous from the nasal membrane, it has been used in certain affections of the brain, eyes, face, mouth, and throat, on the principle of counter-irritation. Thus in paralytic affections of the mouth and tongue, in toothache and in ophthalmia.

Administration.—We may administer either the root or leaves, recollecting that the latter are somewhat milder than the former. As an *emetic*, the dose is half a drachm to a drachm. As an *errhine*, one or two grains of the root, or three or four grains of the dried leaves, are snuffed up the nostrils every night. The powder of this plant is supposed to form the basis of the *Cephalic snuff*. The Dublin and Edinburgh Pharmacopœias contain formulæ for a compound powder of asarabacca; that of the Dublin Pharmacopœia is composed of eight parts asarabacca to one of lavender flowers; whereas the Edinburgh College order three parts asarabacca, one part lavender flowers, and one part majoram flowers.

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,*During the Session 1836-7.*

BY PROFESSOR GRAVES.

LECTURE XVI.

*On the efficacy of Tartar Emetic and Opium
in Fever with much cerebral disturbance;
illustrated by Cases.*

At my last lecture, I alluded to the use of tartar emetic in the treatment of the cerebral excitement and determination to the head, which are so frequently witnessed in the advanced stage of the present epidemic, typhus; I shall now proceed to mention some of the beneficial effects derived from this plan of treatment, as illustrated by cases which have recently occurred in my own practice, or in that of other members of the profession.

Did I bring forward this plan of treatment as infallible, or if I boasted that it never failed, then indeed you might well doubt my judgment in recommending it to your notice, for infallible remedies never earn the sanction of experience; but such is not the fact. This treatment we ourselves have seen will not always succeed; nay, we must acknowledge that it has occasionally disappointed us even where we seemed justified in calculating upon success. But, gentlemen, we must recollect that every useful remedy is subject to the same charge, and that in the long list of therapeutic agents, there does not exist a single medicine which is fairly entitled to the appellation of a true and infallible specific.

We have failed in several cases with tartar emetic, either alone or combined with opium and other medicines, and patients labouring under typhus have fallen victims to cerebral disease, although we applied the remedy with all due diligence. Yet I think it but fair to observe, that most of the instances in which we failed were cases that had come under our notice at an advanced stage of fever, and where the cerebral symptoms had been wholly overlooked or improperly treated in the commencement of the disease. I may observe also, that cases of this description, in which the cerebral symptoms have been permitted, before admission into hospital, to form themselves fully, are exceedingly difficult to manage, and terminate fatally at a much earlier period than the ordinary cases of typhus observed in private practice.

Maculated typhus with determination to the head, when improperly treated, terminates not unfrequently about the tenth, eleventh, or twelfth day; sometimes it is protracted to the thirteenth or fourteenth, but most usually it ends fatally about the eleventh or twelfth. In neglected cases, the cerebral symptoms frequently assume a fearful violence on the seventh, eighth, or ninth day, and in such instances it must be expected that the best and most appropriate plan of treatment will fail in rescuing the patient from impending dissolution. If, however, we can find out a remedy, which, in many cases apparently desperate, succeeds in rescuing the patient from the jaws of death we must be satisfied. A case of this description has occurred since our last meeting. It has excited the attention of all who witnessed it, as well from the violence of the symptoms, and the apparently hopeless state of the patient, as from the rapidity with which the exhibition of the remedies employed was followed by a striking and decided alteration in the symptoms. Any one who saw him yesterday, would scarcely recognize him as the same individual to-day.

This man, named Fogarty, was admitted about the seventh or eighth day of his fever, according to the account of his friends. Of course, in such cases, we cannot give implicit credence to those loose statements, for the lower class of persons in this country never calculate the time during which the patient remains out of bed struggling against the disease,—a period which, in a people inured to suffering and privation, frequently lasts three, four, or even six days. Well, this man, aged five-and-twenty, and of rather robust constitution, was admitted on the 20th of December, being then about eight or nine days ill. Previous to admission he had taken purgative medicines, had his head shaved, and six leeches applied behind his ears, or to his temples, I forget which. Now all these measures, although perhaps insufficient, were extremely proper, and must have produced more or less benefit. When we examined him on the 21st, we found him in a state of high excitement, as manifested by continued mental wandering, incessant talking and raving, and frequent attempts to get out of bed. He had illusions of the senses of sight and hearing, consisting of terrific ocular spectra*, and alarming sounds, which

* In a former lecture I mentioned that analogous symptoms result from increased or diminished sanguineous pressure on the brain; the ocular spectra in Fogarty's case evidently depended on determination of blood to the head, but in the case of a lady, the wife of an eminent physician, a continued and varied succession of spectral illusions formed one of the chief symptoms, produced by exhausting hemorrhage after delivery.

threw him into a state of intense agitation; his eye was red and watchful, and he never slept. Here then was a very threatening array of symptoms;—perfect insomnia, ocular spectra, illusions of the sense of hearing, a fiery eye, and incessant mental wandering. To this was added, great derangement of the whole nervous system; his body was agitated from head to foot by continual tremors, and he had violent and persistent subsultus; his respiration was interrupted, suspirious, and irregular, amounting at one time to forty in the minute, and a few minutes afterwards not exceeding twenty-five; the acts of inspiration and expiration were extremely unequal, and occasionally accompanied by blowing and whistling. In a former lecture, I made some observations on this form of respiration, which I termed *cerebral*, from having first observed it in persons subject to apoplectic attacks, either before or during the paroxysms; it is frequently observed in bad cases of fever, and is a symptom of the greatest importance. He also lay constantly on his back; his pulse 120, soft, and very weak, so that the canal of the artery could be obliterated by very slight pressure; his pupils were somewhat dilated; tongue parched and brown in the centre, red at the edges and tip; skin covered with maculæ; abdomen soft and full. Those who have witnessed the case, will acknowledge that the picture I have drawn is not too highly coloured, but on the contrary, falls far short of the reality, and no doubt you all expected that if we did not succeed at once in arresting the progress of his symptoms, the case must have proved rapidly fatal. Observe the position in which we were placed. In the commencement of the fever, certain appropriate but inadequate remedies had been employed, and under a treatment proper but insufficient, the disease had progressed; it was an example of one of the worst forms of fever, characterized by intense cerebral excitement, and accompanied by total want of sleep, persistent delirium, and excessive disturbance of the nervous functions; all these symptoms had come on gradually, and arrived at their acmé at a period when the low and debilitated state of the patient precluded the use of depletive measures to such an extent as to exert any efficient control over the most dangerous symptoms. The application of a few leeches would be extremely hazardous, and blistering would have been wholly useless and nugatory, for before a blister could rise the man would be dead. For these reasons, we concluded that the only remedy we could have recourse to with any prospect of success was tartar emetic. We therefore ordered a draught composed of two drachms of mint water, two of

common water, and a quarter of a grain of tartar emetic, to be given every hour until it produced some decided effect on the constitution. You will recollect here, that the scale was vibrating between life and death, that it was necessary that our plan of operation should be at once prompt and prudent, decisive and cautious. One of the pupils promised to stay by him the whole day and watch the effects of the remedy, and I determined to visit and examine him personally in the afternoon. In the course of four hours, he took four doses of the tartar emetic; the first and second, in fact, almost every dose vomited him, but not immediately. He retained each dose for a considerable time, and then threw it up. After the fourth dose, it began to act on his bowels, and then the medicine was suspended for some time, and a small quantity of porter administered. When I saw him at eight o'clock in the evening, he had been freely purged, and had discharged a considerable quantity of bilious yellow fluid from his bowels. He had also enjoyed about an hour's sleep; his respiration was now more uniform and natural; his raving greatly diminished; the subsultus and tremors were nearly gone, and the man appeared quite tranquil. I then ordered him a wine-glass full of porter, with two drops of black drop, to be repeated every second hour for three or four turns successively. I saw that the cerebral symptoms were evidently diminished, and that there was a tendency to returning tranquillity and repose, and I wished to follow up and assist the operations of nature. To day this man is in a most favourable state. His skin is covered with a profuse warm perspiration, he has slept well, belly soft and natural, respiration slow and regular, and pulse diminished in frequency; he is calm, rational, and composed, and I think I am not too sanguine in anticipating for him a speedy and certain recovery*.

It is always an unpleasant and ungracious task for any individual to be obliged to come forward with proofs of the originality of his contributions to science: this task some have endeavoured to impose on me, and have sought to impugn both the originality and utility of my method of using tartar emetic and opium in typhus fever. Their arguments do not require any answer, and may, gentleman, be passed over in silence without any loss to you or prejudice to me, for certainly you could derive little profit from hearing the statements of my opponents, and I but slight credit from their refutation; suffice it then to say, that the prescriptions filed by the

* He recovered rapidly and completely.

apothecaries of Dublin establish my claims, for you will search in vain among them for one, bearing a date prior to the publication of my papers on the use of tartar emetic and opium *in the advanced stages of fever*, and in which these medicines are prescribed in the way, or in any thing like the way, recommended and practised by me. Since that date such prescriptions have daily become more numerous, and I am proud to bear testimony to the general liberality of the profession, for the greater number of my brethren have not merely tried my plan of treatment, but have acknowledged its utility, and have hastened to assure me that until my publications, they had not seen it practised. But enough of this, gentlemen, let us not employ in general encomiums that time which may be more profitably dedicated to instructive details; let us therefore again recur to facts.

I have within the last fortnight received from Mr. Burke and Dr. Beauchamp the notes of an extremely interesting case of this description. Mr. Burke is remarkable for his professional ability and his attention to his patients, and of Dr. Beauchamp I may state, that his experience in fever is most extensive. The case is extremely valuable as having been observed by Mr. Burke from the commencement; I shall read the whole of it from his letter, as it is well worthy of attention:—

“I was called on the 25th of November to see Mrs. M., a married woman, without family, of a weakly and nervous habit, though generally enjoying good health. She complained of having had chilliness on the preceding day; and now, that she was hot, thirsty, had pain in the head and back, and great debility. On examination I found that petechiæ covered the chest and abdomen; the eyes suffused; face red; scalp hot; pulse 110, small and hard; tongue covered with a creamy exudation; no abdominal or chest affection; secretions and excretions arrested. She was ordered some aperient medicine, and directed to be kept very quiet.

26th.—Passed rather an uneasy night, frequent startings; some raving; complains of headache, and that the light and noise are distressing; pulse as before, face more flushed, bowels open. I directed a cooling lotion for the head, and a diaphoretic mixture containing *Liquor Acetatis Ammoniacæ* and nitre. On the 27th, she complained of the headache being made worse by the noise in the house, from which I determined to have her removed, and I therefore did not put any active treatment into requisition.

30th.—This day she was removed to a quiet airy room. I then had her head shaved, eight leeches applied behind the

ears, and a blister to the nape of the neck; bowels opened by enemata.

Up to the 5th of December, which was the tenth day of her illness, she went on tolerably well, occasionally raving at night; tongue dry and red; pulse very weak, 110; eyes much suffused; face occasionally flushed, then pale; scalp hot. At this period Dr. Beauchamp saw her, and from the weakly habit of the patient, and the peculiar tremulous feel of the pulse, he thought it advisable to let her have some weak chicken broth and light negus; the latter had soon to be discontinued on account of the excitement it produced.

On the 14th day she became more delirious and somewhat unmanageable, though previously very gentle; however, when spoken to she answered tolerably reasonably. Ordered to continue the lotion, enemata, and saline draughts.

Dr. Beauchamp and I saw her next day about ten o'clock in the forenoon, being the fifteenth day of her fever. Previous to our going into the room, the nurse gave us a frightful picture of the way she spent the night. She had been perfectly unmanageable, continually screaming and imagining she saw frightful apparitions, and had been convulsed during the night. On entering the room, we found her with her hands outstretched and rigid; a mixture of wildness and terror in her face, her eyes red and protruded, pupils contracted, pulse not to be counted, and scarcely to be felt; feet cold and stiff. When spoken to she made no answer, but kept her eyes steadily directed towards the foot of the bed. Her aspect was altogether frightful, and Dr. Beauchamp observed that her state appeared to be a combination of delirium with hysteria.

The question now was, what were we to do? we dared not apply leeches, blisters would be doubtful, and the probability was that the patient would sink before they vesicated. There was no indication for cold to the head, for the scalp was cool. Could we rely with safety on nervous medicines? their very stimulus might hasten her to the tomb. The indication was to relieve the brain, and the question was, what medicine or combination of medicines would affect this safely? Under these circumstances, we happily thought of the treatment employed by you in somewhat similar cases. We immediately ordered a mixture containing three grains of tartar emetic, half a drachm of laudanum, and six ounces of water: of this a table-spoonful was administered every half hour, its effects being watched. We saw her again at one o'clock on the same day, and had the pleasure of finding her much improved. She had taken three doses, and vomited twice. The expression

of her countenance was much changed, it had lost its ferocity and wildness; her tongue was now moist, perspiration was beginning to appear over her body, the pulse was soft and about 100, and the intelligence, which had been absent for a considerable period, now reappeared. She was able to answer our questions, and expressed herself relieved. We ordered the medicine to be continued, giving a table-spoonful every hour. After taking two doses, she became perfectly quiet, fell into a profound and tranquil sleep, perspired copiously, and at our visit next morning at ten o'clock, we found her to our astonishment almost well. She looked cheerful and refreshed, and spoke of the wonderful relief she obtained: her pulse was soft, and about 80; her skin natural, her tongue moist and clean. Dr. Beauchamp did not think it necessary to continue his visits, and all that remained for me was to conduct her by proper regimen from convalescence to perfect health. She is now quite well.

It is a source of gratification to me to have had the able assistance of Dr. Beauchamp on this occasion, and his presence during the eventful period adds much value to the case. Dr. B. remarked at the time when hope had fled, that he knew of no routine of practice which afforded a probability of being of service, so that we may fairly conclude, that but for your happy combination the patient must have died."

This is a very strong case, gentlemen, indeed there could scarcely be a more striking illustration of the value of tartar emetic and opium in the treatment of the cerebral symptoms of fever. The case too was one of great danger, the patient was of a nervous and weakly habit, and during the acmé of the disease she had an attack of convulsions. This is a very important and most formidable symptom in fever, particularly when superadded to others indicating a deranged state of the sensorium. We had a patient here, some time back, who had two convulsive paroxysms during the course of his fever, and you recollect that I told you that it was a symptom of unusual danger. Some time ago a gentleman in discussing my cases, said that convulsions in fever were not so dangerous, but I had the satisfaction of quoting for him the authority of Hippocrates to shew that persons who have been attacked in this way very seldom recovered.

I shall conclude this lecture by detailing a very remarkable case which has been communicated to me very recently in a letter from Mr. Swift:—

"J. Kinsela, a labourer, aged 23, of powerful make and robust constitution, was attacked with fever about the 14th or

15th of January. He complained during the ensuing week of intense headache, thirst, and debility, but had no medical treatment. On Saturday, the 21st, he was extremely ill and restless, and on Sunday morning, while his clergyman and several of his friends were with him, he got out of bed in a state of furious delirium, seized a knife, and having cleared the room, rushed out into the street in his shirt, where he was secured by a policeman and some of his neighbours, and brought back to bed, having previously wounded several of his captors in the struggle. He then fell into a state of coma, and when I saw him on the following Thursday, the 26th, he exhibited the following symptoms:—Decubitus on the back; eyes nearly closed; lips red, dry, and chapped; forearms bent and agitated by apparently unconscious movements; convulsive twitches of the eyebrows and angles of the mouth; breathing irregular, heavy, and somewhat stertorous, (of that description which you have aptly termed *cerebral*); pulse oppressed, unequal, weak, and about 110; great heat of scalp and face; temperature of the body normal; feet very cold. He had no pulmonary symptoms; his belly was soft and apparently natural, but he gave indications of uneasiness when firm pressure was made over the situation of the stomach and small intestine. He was raised up in bed, shaken roughly, and spoken to repeatedly, but gave no answer; nor would he put out his tongue, or open his eyes, when requested. His tongue, as far as I could see it, appeared red, dry, crusted, and fissured; and on raising his eyelids, I found the eyes greatly suffused, and the pupils contracted nearly to the size of a pin's head.

His face, hands, and head, were bathed with warm vinegar and water, jars filled with hot water applied to his feet, and about two o'clock P.M. he commenced taking tartar emetic in doses of a quarter of a grain every hour. It was combined with a small quantity of opium.

When I saw him again, about nine o'clock in the evening, he was wonderfully improved. He could be easily roused, answered questions distinctly, put out his tongue when desired, and appeared quite rational. He had taken about two grains of the tartar emetic, the effects of which appeared to be chiefly confined to the circulating system. His pulse was now equal and regular, the temperature of his body nearly uniform, and a slight degree of moisture could be felt on his skin, but he was neither vomited nor purged. A mixture, containing nitrate of potash and tincture of hyoscyamus, was substituted for the tartar emetic; the fomentations of warm water and vinegar were continued,

and he had a purgative enema with turpentine, which was followed by a full discharge from the bowels and copious diuresis. On Saturday, the 28th, he had an indistinct but favourable crisis; his tongue became clean and soft, and his pulse diminished in frequency. On the following Tuesday, his pulse was 76, his tongue clean, eyes clear, pupils natural, appetite returning, so that I considered it unnecessary to continue my visits beyond the following day. His convalescence is now completely established.

I have been particular in describing the cerebral symptoms in this case, as the patient's head was neither shaved, blistered, nor leeches. A portion of his hair was cut off with a scissors, and this was all that was done in addition to what I have mentioned. I attribute his recovery to the tartar emetic and opium, as under its use he recovered in a few hours from a state of stupor and coma, which otherwise must have speedily terminated in death, and I think this valuable remedy has additional claims to notice, if (as it would appear from Kinsela's case) it can be employed as a substitute for all the ordinary and expensive remedies used on such occasions,—remedies, which in dispensary practice, and among a pauper population like ours, it is often difficult, and sometimes impossible, to procure."

ON THE

DISSOLUTION OF GRAVEL AND
STONE IN THE BLADDER.

BY A. CHEVALLIER,

Chemist; Member of the Royal Academy of Medicine, of the Council of Salubrity, &c. &c.

Translated from the French,

BY EDWIN LEE, M.R.C.S. &c.

Author of "An Account of the Watering Places of the Continent;" "Observations on Continental Medical Institutions and Practice," &c.

[Continued from page 506.]

XI. *On the action of Bi-carbonate of Soda on Calculi of the Bladder.*

THE carbonates of soda have been employed against calculi of the bladder; the sub-carbonate enters into the composition of the anti-nephritic water and of the lithontriptic bolus. Brande, who made experiments with this salt, observed that it rendered the urine alkaline in a few minutes. The bi-carbonate forms part of the pastilles of d'Arcet, the pastilles de Vichy, and

other popular remedies. Several cases prove the action of the bi-carbonate on calculi of the bladder, and the dissolution of calculi by this substance.

One of these cases was communicated to the Académie de Médecine on the 31st January, 1836. M. Manqueris, æt. 74, a retired merchant, was attacked in February 1825, with a pain in the penis, and difficulty in micturition, which symptoms gradually increased, so as to be frequently intolerable; the patient only being able to make water by bending himself forward, and after having by some shaking movements, dislodged the stone from the neck of the bladder. The evacuation of urine was mostly preceded by a flow of blood. The patient walked with extreme pain, and it was often impossible for him to get into a carriage.

Finding himself become worse and worse, the patient expressed a desire to have the operation performed. He was consequently sounded by M. Marjolin, who detected a stone in the bladder, and who considered that it was small, soft, and capable of being extracted by M. Civiale's method. At this period (July 1825) M. Manquires was recommended to M. Robiquet, and this skilful chemist, in concert with Dr. Farrot, prescribed two pints of a solution of bi-carbonate of soda (90 grains to the pint), to be taken daily; hip baths; and emollient enemata. The usual diet was not altered; and as the patient did not like to abstain from wine, white wine was recommended instead of red, and as much diluted as possible. In a few days, the patient's condition was sensibly ameliorated; the urine, secreted in larger quantity, caused less irritation of the bladder, and its expulsion was rarely preceded by pain. After fifteen days' treatment the hip baths and enemata were discontinued; and at the expiration of a month, the patient, considering himself completely cured, wished to give up all remedies, and it was with great difficulty that he was prevailed upon to drink at least a pint of the medicine per day. On the 1st November, after some sharp pains in the urethra, and slight bleeding, he passed in his urine a calculus about the size of a bean, and composed entirely of lithic acid. The successive laminæ, constantly increasing in size from the point to its edges, indicated that it was the nucleus of a larger stone, which had been dissolved. It was consequently probable

that the bladder was entirely free. In order, however, to be assured of this the patient was sent to M. Marjolin, who, however, refused to sound him, on the grounds that, as he no longer suffered any inconvenience, it was useless tormenting him by further examination, and recommended him to continue the treatment. M. Deleus also informed the Académie that he had given daily from a drachm to a drachm and a half of sub-carbonate of soda to a patient with stone, who was relieved of his pains, and enabled to make several journeys.

2d Case.—A lace girl, æt. 25, who had been sounded by several surgeons, and in whom the existence of a stone in the bladder had been ascertained, was treated by the bi-carbonate of soda, in the proportion of 45 grains to the pint of water. This medicine having been continued during three months and a half, the patient was entirely relieved of a calculus, which occasionally obstructed the urethra.

3d Case; communicated to the Académie by Dr. Guillier, 15 July, 1826.—A labourer, æt. 62 years, who had all the symptoms of stone, was sounded, and the existence of calculi in the bladder ascertained. He was treated by bi-carbonate of soda (two drachms to the pint of water); and at the expiration of a month voided eleven calculi, each of the size of a large pea. A subsequent examination did not detect any foreign body in the bladder.

The analysis by M. Leconite shewed the calculi to consist of uric acid, with a small quantity of animal matter. M. Mignel remarked to the Académie that the inspection of the calculi evidently shewed that they had been eroded.

4th Case.—A girl, who had the symptoms of stone, suffered greatly, and had already voided several calculi of the size of a nut, was sounded, and the existence of calculi in the bladder recognized. She was treated by bi-carbonate of soda (two pints of the solution daily), and under the influence of this medicine passed several small stones, and was cured; at least, pains ceased, and no more foreign bodies could be detected in the bladder by sounding.

5th Case.—A man, æt. 52, experienced frequent desire to make water, with acute pains in the urethra, and at the end of the penis, during several months. On examination several stones were felt in the bladder, apparently of the size of

a nut. He was prescribed two drachms of bi-carbonate of soda in a pint of water, to be taken daily. On the eighth day, he experienced very severe pain, with impossibility of making water. The cause of these accidents was a stone fixed in the urethra, which, by means of a catheter, was pushed back into the bladder, and the medicine was continued. At the expiration of a month the patient, who had been relieved in the first days of the treatment, passed several calculi without very great pain. When sounded afresh no more calculi could be found in the bladder.

6th Case.—M. D. æt. 61, habitually a great eater of pork and cheese, after having suffered during sixteen years from attacks of nephritic colic, first at long intervals and afterwards almost every fortnight, at last experienced all the symptoms which usually indicate the existence of stone in the bladder. He underwent the operation of lithotomy, which was performed by M. Dubois; two calculi, one of which was of very large size, were extracted, and twenty-two days afterwards the wound was healed, and the urine was expelled through the urethra. A fragment of one of the calculi analyzed, gave the following results for eighteen grains:—Phosphate of lime two grains; phosphate of magnesia four grains; urate of ammonia three grains; uric acid four grains; animal mucus three grains; loss, two grains.

The health of M. D. became perfectly re-established; but either from the influence of his diet, or from other causes, he experienced after some time attacks of nephritic colic, followed by the same symptoms from which he had previously suffered. In March 1836, he was in such a state of suffering, as to be almost unable to quit his bed. A skilful Parisian chemist was informed of the state of the patient, and was requested to see M. Civiale, in order to make arrangements with him for the performance of lithotrity, but the chemist, instead of seeing M. Civiale, inquired if he could not obtain some fragments of the calculi, which having procured and analyzed, he did not hesitate, although no physician, to propose the treatment by bi-carbonate of soda. This medicine was accordingly given on the 15th April, 1827; seventy-five grains to a pint of water daily; and the dose was gradually increased, so that at the end of June it amounted to

three drachms daily, — the precaution being taken to suspend the use of it now and then for a few days. As, however, this quantity caused some stomach derangement, it was diminished to two drachms and a half during the months of July and August. He at first voided a large quantity of gravel, mixed with an abundant mucous secretion, of an ammoniacal odour, and as thick as a decoction of linseed. At the end of a few days these symptoms were much mitigated, and his urine became clear and of a citrine colour, like that of a person in good health. On the 2d April, 1828, the patient wrote that since the beginning of his treatment by the bi-carbonate of soda, he had experienced no nephritic pains, whereas they had been previously of very frequent occurrence, that he could walk and follow his usual avocations, which was impossible before he took the medicine: now and then, he added, he passed gravel and some small stones. It was subsequently ascertained that the patient was entirely cured; that he experienced no symptoms of stone, and worked as if he had never been ill. — From the Memoir of Dr. Petit, published in 1834.

7th Case.—The Count of P. æt. 55, of good constitution, had been a sailor, and subsequently passed a sedentary life. He had, twenty-three years ago, some symptoms of a gravel, which was successfully treated by vegetable diet and the waters of Contrexeville, but the complaint returned from time to time without its being much noticed by the patient, who did not suffer much inconvenience from it. In November 1829, however, becoming aware of the necessity of attending to his disease, he consulted M. Lemazurier, corresponding member of the Académie de Médecine.

The gravel voided by M. de P. was evidently composed of uric acid. The use of the bi-carbonate of soda was recommended him, and from the first doses of the medicine the gravel assumed a different appearance, passing successively from a deep red to a pale colour. M. Segalas possesses three small stones, the only ones passed during the employment of the bi-carbonate of soda; two of them appear to have been directly acted on by the chemical agents, and a part of the surface of the one last voided is rough. These alterations would seem to have been produced by a file

which had removed a large zone of the external layer.

The patient, who after a time voided no more gravel or sand with his urine, considered himself cured, and contented himself with combating by regimen and calming drinks the irritation which he experienced, and which he attributed to a vesical catarrh.

In May 1834, (four years and a half afterwards,) in consequence of the persistence of this state, and from the fear of its aggravation, M. de P. was recommended by M. Lemazurier to M. Segalas, who, after having ascertained the existence of a stone in the bladder, operated and destroyed a stone measuring twenty-two lines in diameter.

This case extracted from the work of M. Segalas, (*Essai sur la Gravelle, et sur la Pierre*, 1836,) shews the advantage derived from the use of the bi-carbonate of soda: the operation which the patient underwent four years and a half afterwards is no proof against the efficacy of this salt, for in so long a period a new stone may have been formed. Examples of these relapses have been given, and we may quote Deschamps, who saw two patients, one of whom had been cut six times; the other an Abbé, who died in 1789, and who had been cut four times in as many successive years. M. Souberbeille operated on the same patients several times; according to M. Segalas, this practitioner cut three times within three years an old man seventy years of age, viz.: twice by the high operation and once by the lateral operation.

Many other examples of the re-formation of calculi might be cited.

8th Case.—M. A., artist, was at the age of 16, affected with a stone in the bladder which occasioned very severe pains; he was treated by bi-carbonate of soda, (seven drachms per day in a diuretic potion.) After fifteen days' treatment the pains had ceased, and the cure was considered to be complete at the end of three months.

9th Case.—Madame J. was twice attacked by nephritic colic, occasioned by the presence of calculi in the left ureter, and was relieved each time by bi-carbonate of soda, (two and a half drachms a day.) The stones voided after this treatment were of a tolerable size and much eroded.

We might record a great number of cases of the favourable results obtained by the administration of bi-carbonate of

soda, but we will restrict ourselves to the following one communicated by one of our colleagues :—

M. Labbé, at the end of 1834, after some pain in the region of the right kidney, perceived that his urine was tinged with blood, the cause of which circumstance was explained by the passage of a small calculus. This recurred several times without the patient being materially affected, till after the lapse of five months the pains became all at once very acute; a great quantity of blood was voided, and the urine could not be retained; baths and leeches were prescribed with but slight relief. The symptoms became more serious: the patient, who walked with difficulty, was unable to sit down, suffered excruciating pain in the region of the kidneys; the digestion became impaired; a retention of urine ensued and lasted nine days; he was shortly after subject to continual vomiting, cramp, and nervous pains; and during two entire months he took no kind of food.

The patient's state becoming daily worse, a consultation was decided upon, and it was agreed that M. Labbé should take the bi-carbonate of soda; twelve grains daily in a drink, twelve grains in a liniment, and two ounces in each bath. These measures had, according to the patient's account, scarcely any influence in producing the slight amelioration which succeeded; in fact, the calculi which descended into the bladder always produced acute pain, and those which the patient voided were very rough. Having read the pamphlet of M. D'Arcet, on the influence of the Vichy waters on some secretions, M. Labbé considered that in order to ameliorate his condition and obtain a cure, his urine must be rendered alkaline; so that without speaking to any one on the subject he bought two pounds of bi-carbonate of soda, and instead of taking twelve grains per day, he took twenty-four, forty-eight, and afterwards ninety-six grains; yet not obtaining the result which he expected, viz. the alkalinity of his urine, he at length carried the dose to 192 grains without experiencing the least inconvenience*.

* The bi-carbonate of soda may be taken in large doses without inducing any bad consequences, as very recently demonstrated by the experiments of M. Malayatti, who observed that the sub-carbonate of soda is slightly caustic, whilst the bi-carbonate is not; he gave an ounce

On the same day that he took this quantity the urine became alkaline, and in less than eight days afterwards the pains in the bladder had disappeared, and the patient walked without difficulty*.

In consequence of this treatment, M. Labbé voided at first two calculi similar in form and smoothness to the pebbles found on the sea-shore; he then voided thirteen others successively; some of these were broken, and these fragments when placed in contact formed a stone of considerable size.

From this period our colleague has not experienced any of the serious symptoms which endangered his life. The disease has left no marks of its existence in the organs which were affected.

The following are the forms in which carbonate and bi-carbonate of soda have been employed in cases of stone, gravel, and nephritic colic :—

Lithontriptic Pills of the United States, and of the Edinburgh Pharmacopœia.

Sub-carbonate of soda, four parts.

Hard soap†, three parts.

Syrup, a sufficient quantity.

Make pills of two grains each; at least ten pills to be taken every two hours.

Anti-nephritic Water of the Hamburg Pharmacopœia.

Sub-carbonate of soda, two drachms.

Lime-water, two pounds.

The dose is two or three spoonfuls.

Lithontriptic Injection.

Sub-carbonate of soda, one drachm.

Soap, two ounces.

Water, twelve ounces.

Ellis's Lithontriptic Potion.

Sub-carbonate of soda, one drachm.

Infusion of quassia, four ounces.

Tincture of Columba, one ounce.

Dose, a spoonful four times a day.

in four doses, one every two hours, to a little dog, without the animal being incommoded by this quantity.

* The difficulty of rendering the urine alkaline in some diseases is remarkable; some persons require large quantities of bi-carbonate of soda to be given to produce this effect, whilst in others from 36 to 54 grains are sufficient.

† Lord Walpole, who was afflicted with stone, stated that he experienced great relief from the internal use of soap and lime-water, and published his opinions in the *Philosophical Transactions*. Pringle, who examined his body after death, found three small rounded calculi in the bladder; and all the circumstances of the case shewed that these alkaline fluids had acted on the calculi.—*Philosophical Transactions*, vol. i.

Alkaline Gaseous Water.

Sub-carbonate of soda, eighteen grains.
Pure hydrochloric acid, half a drachm.
Water, twelve ounces.

Put the acid in the water, add the salt in its crystallized state, and cork the bottle well.

The soda water of the English has a great analogy with the alkaline gaseous water.

We will avail ourselves of the opportunity which we have had to speak of the use of bi-carbonate of soda in cases of gravel and stone, to show that the opinions which some authors have entertained are erroneous, viz.: 1st, that the employment of the remedy is more hurtful than useful where there existed other calculi than those composed of uric acid. 2d, That it could only succeed when the calculi were small. 3d, That the bi-carbonate of soda, by precipitating the phosphate from the urine, would give rise to the formation of phosphatic calculi.

The first of these opinions is answered by the facts, since it results from all that has been observed, that the employment of alkalies has a remarkable action on most calculi; that it causes the dissolution of calculi of uric acid; that it breaks up and causes a division of the fragments of other calculi, which admits of their expulsion by the urinary passages. A great number of facts prove this action, which, it is true, has not been observed on stones composed of oxalate of lime. Some of these calculi, however, might be broken, if they were composed of uric acid and oxalate, not forming distinct layers but a mixture of acid and oxalate.

The second of these opinions may also be combated, for if alkalies dissolve a small calculus of uric acid, why should they not be able to dissolve a large one if the practitioner persisted in their use?

The third opinion does not appear to us to have any better foundation than the two preceding ones; it may be refuted by the examination of the calculi themselves; in fact, this examination shews that these bodies are formed by the successive deposition of molecules on a primitive nucleus. These molecules even assume most frequently the crystalline form, and if by the employment of the bi-carbonate of soda, the phosphates in the urine can be decomposed, they would be precipitated in the state of powder, and expelled with the urine.

XII.—On the action of the Vichy Waters on Calculi of the Bladder.

The waters of Vichy have been the subject of numerous researches. Duclos considered them as being analogous to the waters of Pougues. Mareschal regarded them as useful in diseases of the kidneys and bladder. Geoffroy, of the Académie des Sciences, demonstrated in them the presence of an aerated and lixivial salt effervescing with acids. Burlet stated that they contained ninety grains of alkaline salts to the pint. Chomel stated them to be aperient, purgative, and diuretic. M. Mossier de Clermont analyzed these waters, and ascertained their composition; and more recently, M. Longchamp has published an analysis of the waters of Vichy, made by order of government.

Among the most recent works which have been published on these waters may be mentioned, 1st, the notes of M. D'Arcet; 2d, three notices published by M. Charles Petit, assistant inspector. In the first of his publications, M. D'Arcet has treated, 1st, on the influence of the waters of Vichy on some secretions, and especially that of the urine. 2d, on the alkaline property acquired by the urine of persons who use the Vichy waters; the considerations to be deduced therefrom, and the applications which may be made of it.

M. D'Arcet observed that a glass of Vichy water, which contains eighteen grains of bi-carbonate of soda, does not render the urine alkaline, but that it remains clear after cooling, depositing only a small quantity of mucus: that two glasses of Vichy water render the urine alkaline, and that it remains alkaline eight or nine hours after having been voided: that when three glasses are taken, the urine remains alkaline during twenty-four hours: and when five glasses are taken, the urine secreted during the night remains perfectly clear; that alkaline urine becomes decomposed and exhales a disagreeable odour; that the taking of a single bath may alter the urine and change it from acid to alkaline; that the alimentary regimen followed at Vichy may change the urine, from being alkaline before sitting down to table, to acid after the repast, without, however, the acidity being permanent; a milk diet, and acids or substances which contain acid, are, according to M. D'Arcet, the substances which possess more especially the pro-

perty of destroying the alkaline state of the urine; that the alkaline action of the waters on the urine does not cease after the persons have ceased to drink; that the body appears to become completely saturated with alkali, which prevents the formation of the acids observed in ordinary urine; that in general the urine of women appears to become alkaline more easily than that of men; that the urine of drinkers had on an average 1.014 of specific gravity, and that a pound of urine fresh voided could saturate as much as two scruples of sulphuric acid; that the urine may become alkaline without causing any inconvenience to those who drink the Vichy water; that these waters render also the excrements and the sweat alkaline; that alum and the sulphate of alumina and potass may be employed to prevent the putrefaction of the urine, and its emitting an offensive odour; that the carbonic acid of the bi-carbonates has a very marked influence on the secretions. M. D'Arcet then shews in his work that those who have studied the action of alkalies on the urine have not attached sufficient importance to the different results obtained, according as to whether pure alkali, or alkali combined with carbonic acid (bi-carbonates), were employed; and that the presence of the carbonic acids alters the mode of action of the alkalies; that the urine may be rendered alkaline without danger, provided that the alkaline bi-carbonates be employed to produce this effect, and that the dissolvent action be assisted by drinks impregnated with carbonic acid; that the works of Wollaston, Fourcroy, Vauquelin, Mascagni, Luiscius, Brande, Home, Hatchett, Marcet, and Magendie, had already made known the advantages to be derived from the employment of alkalies either pure or carbonated, in the treatment of affections of the urinary passages; but that there is reason to expect more success from this mode of treatment now that the influence of the carbonic acid will be appreciated; and that the harmlessness of the bi-carbonate is fully shown*; that what is observed in the thermal establishments where there are alkaline gaseous waters, in soda-water manufactories, and in England, where so large a quantity of soda

water is drank, prove the possibility of obtaining great success, by examining afresh with more exactness and boldness than has hitherto been done, the treatment of stone, gravel, and gout, by means of chemical dissolvents.

M. Petit, in his first notice, (*Du Traitement Médical des Calculs Urinaires, et particulièrement de leur dissolution par les Eaux de Vichy et les Bi-carbonates Alcalins*; Paris, 1834,) after having alluded to the works published which relate to the stone, points out the principal characters of gravel and stone, their causes, the considerations applicable to the dissolution of calculi in general, the treatment of gravel and calculi composed of uric acid, and the treatment of other calculi. The work concludes with an exposition of the reasons from which the author anticipates the success that will follow the administration of the Vichy waters. In his two other notices, M. Petit speaks of the treatment of gout by the Vichy waters, and of their efficacy in chronic obstructions. In his work on the Gout, M. Petit alludes to the analogy which appears to exist between gout and uric acid gravel, which analogy had already attracted the attention of most authors. He quotes the observations of Scudamore, Sydenham, Morgagni, Forbes, and Wollaston, who ascertained, in 1797, that arthritic concretions contain urate of soda,—a discovery subsequently verified by Vauquelin and other chemists. He then refers to the employment of magnesia by Home and Brande, not only in cases of gravel, but in gout.

The perusal of these different memoirs; of the works of Patissier on Mineral Waters; the opinion promulgated by M. Longchamp, (in his *Annuaire sur les Eaux de Vichy*); that of M. D'Arcet, who frequently said, "*if I had the stone I would go to Vichy*;" and the discussions at the Académie de Médecine;—all these considerations determined me to repeat on the spot the experiments made by D'Arcet, and to make new ones in order to ascertain whether calculi placed in the Vichy water would be dissolved.

Experiments on the Water in the form of Bath.

The first experiments which I made were intended to ascertain whether as M. D'Arcet had stated, and as I myself had observed in 1835, the immersion of the body in the water produced absorp-

* He (M. D'Arcet) remarked that men employed in packing soda experience no inconvenience from this work, although it renders their urine alkaline.

tion, so that the urine passed from an acid to an alkaline state. Before entering the bath I took care to make water and to examine the nature of the urine which was acid: after remaining some time in the bath, about eight or ten minutes, I made water a second time in order to empty the bladder; I then examined every three or four minutes the urine which I could void, taking care to dry himself each time that the water from the bath might not fall into the glass, and thus be a source of error.

These experiments repeated during ten days shewed that the average time required to render the urine alkaline, was only twenty-one minutes. I was the more struck with this facility to absorb the mineral water, and with seeing my urine pass into an alkaline state in so short a time, as, on the 28th September, 1835, it required eighty-nine minutes to obtain the same results, and, as in this year, seventy-five minutes were required for the same effect on another person, and on Dr. Petit more than an hour and a half. An alkaline state of the urine may be produced by taking baths in which subcarbonate of soda has been dissolved. We ascertained that the quantity of subcarbonate of soda requisite to produce these effects was from four to eight ounces for each bath.

The change which the urine experiences of the action of baths alone, deserves to fix the attention of practitioners, who might avail themselves of a mode of medication which has not yet been examined with all the attention which it deserves. This method is advantageous, inasmuch as it would not be repugnant to the patient, who might take medicines in this manner, if unable to take them by the mouth.

[To be continued.]

OBSERVATIONS

ON

WOUNDS OF THE ABDOMEN,

WITH PROTRUSION OF OMENTUM;

With a Case.

To the Editor of the Medical Gazette.

SIR,

IN the third number of Guy's Hospital Reports, a case of wound of the abdo-

men, with protrusion of a large portion of omentum, is recorded as treated by Mr. Key. It was found impracticable, it appears, to return the omentum, in consequence of the disproportion between the size of the protruded portion and the contracted orifice of the wound. The omentum was therefore left extruding, to be removed by the processes of sloughing and absorption.

In his observations on the case Mr. Key remarks, that the propriety of the practice adopted, he thinks, cannot be questioned. "In order," says he, "to have returned the omentum, he must either have enlarged the wound in the abdominal parietes to a considerable extent," in which case "it is probable the omentum would have descended in larger masses; or he must have used such excessive pressure as, in all probability, would have given rise to general peritoneal inflammation." Under this view, he says, "I immediately approved of the omentum being left out to slough, as it sometimes is in strangulated hernia; and I preferred this process of nature to a removal by the knife, as hæmorrhage might have ensued into the cavity of the abdomen from the extremities of the divided vessels."

As to the propriety of enlarging the wound in the abdominal parietes, I most readily agree with Mr. Key that such a proceeding (were it at all practicable) might in all probability have increased the difficulty; but from the position of the patient at the time he received the wound, the body being then in a half-prone and flexed condition, I conceive that the abdominal muscles must have been in a state of contraction, and that, when we consider the various points of attachment of the different layers, we shall come to the conclusion, that the principal difficulty in the reduction originated from the wound of the muscles and that of the integuments not corresponding with each other in the relaxed position of the body, rather than from the contracted orifice of the wound. That it would be exceedingly dangerous to return the omentum into the cavity of the abdomen, after using such mechanical force as would be required in a case of this kind, I am fully aware; but the grounds of Mr. Key's objection to the knife admit, I think, of being clearly set aside, as the operation can be performed with little or no risk to the pa-

tient, and would be followed by decidedly less bodily suffering.

The subjoined case, which occurred in my practice a few years ago, and which I extract from my note-book for the time, will, I think, prove the propriety of excision, instead of leaving the omentum protruding from the wound, and acting as a source of constitutional irritation.

On the night of the 3d December, 1832, I was called to attend John Kirk, a white-smith and bell-hanger, aged 30. The patient had light hair, and was of sallow complexion. Whilst in a state of intoxication he had quarrelled with a tailor: a scuffle had ensued, in which the former was thrown down on his side, and whilst struggling in that position received two wounds from the extended blades of a pair of tailor's shears, the one entering the abdomen about two inches above the anterior superior spinous process of the ilium on the left side, and from which about four inches of omentum were protruding; the other just beneath the last rib on the same side, and near to the spine. The latter I found, from a copious discharge of urine which took place for two days afterwards, must have penetrated deeply into the kidney. The difficulty of returning the omentum was the same as I conceive it to have been in Mr. Key's case. I therefore removed it with a pair of scissors, about a quarter of an inch from the wound, retaining the cut extremity between my finger and thumb. A large branch of the gastro-epiploic artery had been divided, which bled freely when the pressure was removed; this was secured with a ligature. The part was then returned between the integuments and the fascia of the external abdominal oblique, which had been partially separated in the attempts made to return it. The ligature was left hanging from the wound, the edges of which were brought together by strips of adhesive plaster. The posterior wound was brought together by a suture, and dressed in the same way, and the patient placed in bed with the shoulders well raised, and the thighs flexed, so as to relax the muscles of the abdomen, and prevent a dragging sensation of the stomach, which caused severe vomiting.

4th, 8 A.M.—Has passed a restless night; complains of difficulty in voiding urine, which is found to be mixed

with blood; there is slight abdominal tenderness, particularly about the anterior wound. Pulse 108; tongue dry and furred; vomiting abated. A considerable quantity of urine has escaped from the posterior wound; bowels costive.

Haust. Ol. Ricini, 3vj. statim sumendus.
Hirudines x. abdomini app.

6 P.M.—Has been much relieved by the leeches. Has had two copious motions from the oil without any admixture of blood; pulse 98, full and soft; tongue furred, but moist.

Hyd. Submur. gr. iij.; Pulv. Opii, gr. ss. hora somni.

Cataplasma Lini magnum abdomini applicendum.

5th.—Has had a more comfortable night, having slept for two or three hours at intervals; urine tinged with blood, but passing more freely; discharge from posterior wound not so great; no abdominal tenderness; pulse 92, and soft.

Pt. Ol. Ricini. Mist. Sal. Efferv.
Capiat. ʒj. c. Coch. j. mag. succi.
Limonis, 3tia quaque hora.

6th.—Has passed a good night, and is altogether improved. The dressings have been removed from both wounds: the anterior one has united, except where the ligature was hanging, which, on being moved, was found loose. The posterior wound was discharging a yellowish fluid, which had a strong smell of urine, and was beginning to fill up from the bottom. The suture was removed, and the wound dressed with dry lint.

Pt. Mist. Efferv.

The improvement from this date was so uninterrupted as not to require its daily progress to be minutely detailed. The posterior wound gradually filled up and closed, the urine became natural, and in ten days the patient was able to walk about. He resumed his work at the end of a fortnight, and has never since, from the cause in question, experienced the smallest inconvenience: this I state in consequence of a recent conversation with the patient and examination of the parts.

The slight constitutional symptoms which betrayed themselves in this case, the rapid recovery, and the well-known fact that the peritoneum may be extensively cut without much danger to

the patient, lead me to prefer the removal by excision to any of the above-mentioned plans, especially as the danger of internal hæmorrhage is entirely done away with, the cut extremity of omentum being easily retained between the edges of the wound in consequence of its obliquity. The danger of peritoneal inflammation is guarded against, inasmuch as the external wound is soon closed up. The protruding portion being removed, cannot act as a source of irritation; while the continuity of structure in serous membranes form, I may say, a train to excite the whole peritoneal surface into active inflammation. Neither can the ligatures on the divided vessels be any objection to the use of the knife, as they are retained in the wound, and are easily removed without any danger of their admission into the cavity of the abdomen, and thus acting as foreign bodies.

In conclusion, I would urge that in wounds of the abdomen with protrusion of omentum, where, either from the relative position of the openings in the different layers of muscles, the contracted orifice of the wound, or from effusion into the protruded portion, such mechanical force would be required for its reduction as would destroy its texture or function, the practice of excision is the most advisable, and may be freely and safely performed by observing the directions given in the above case.

I am, sir,

Your obedient servant,

RICHARD YATES ACKERLEY.

1, Great Homer-Street, Liverpool,
June 24, 1837.

REMARKS

ON A

CASE RECENTLY PUBLISHED IN THE MEDICAL GAZETTE,

*From the Guy's Hospital Reports, entitled
"Labour with Placental Presentation," &c.*

To the Editor of the Medical Gazette.

SIR,

NOTWITHSTANDING Smellie's, Levret's, and Rigby's writings, and the very clear and judicious directions of Dr. Hamilton and other teachers of midwifery, for the proper management of

labour complicated with placental presentation, it is much to be apprehended that the minds of medical men in general are not duly impressed with the extreme danger of such cases, and with the necessity of early examination, and of the nice discrimination which is required to ascertain the *softening and yielding of the mouth of the womb from hæmorrhage*,—this being precisely the time when the propriety of interference is clearly indicated, and indeed the only time when it is to be presumed that delivery can be accomplished with perfect safety to the patient.

I am led to make this remark from reading a case in point, extracted from the Guy's Hospital Reports, and inserted in a recent number of your journal; and I think it the more necessary to guard against erroneous views upon this important subject, lest, being considered as published under authority, the case in question (like the case of pregnancy with imperforate uterus, detailed in the same work, and so ably commented upon by Mr. North in a late number of the GAZETTE) should be taken by any one as a guide to practice.

In this case, although it was not till the occurrence of the *third* hæmorrhage that an examination was attempted, still a "small portion of the placenta being now discovered projecting over the posterior lip of the os uteri, *which was yielding*," the proper time for proceeding to deliver was well marked, but it was overlooked by the gentleman in attendance, and by another who was called in to his assistance, although the latter gentleman also found upon examination "the *placenta* to be *presenting* and the *os dilatable*." From the state of the patient, who is represented in the report as naturally a delicate woman, and is stated at this time to have been "excessively low, the pulse small and 120," there was not the slightest ground for belief that the case could be left with safety to the natural efforts; and the right practice was doubtless to deliver by turning. In this yielding state of the mouth of the womb there could have been no difficulty or danger in introducing the hand into the uterus; and if this operation had been properly performed, the child turned, and the uterus emptied of its contents and brought to contract upon the hand, aiding at the same time by pressure from without, and the exhibition of strong stimulants,

as brandy and laudanum, there is strong reason to suppose that the life of the patient would have been preserved. Still it is a question in my mind whether, if the state of the os uteri had been earlier ascertained, the child might not have been turned immediately after the second, as it most certainly should have been after the third, gush of blood occurring in the progress of the case as reported.

Not only should the presentation be early ascertained in all cases of flooding, but if the placenta be found implanted upon the cervix or os uteri, the patient should not be left by the medical attendant: it is his duty to watch and wait for the softening and yielding of the os uteri to the finger, which I cannot too strongly insist upon as affording the only true indication of the exact period when the delivery is to be undertaken. When this change is brought about, any further delay is useless, and always attended with danger. It is this condition of the mouth of the womb which is to decide the practice, rather than the amount of the loss of blood or its effect upon the patient.

I may here remark, that my own experience, as far as it can have any weight, accords with that of Dr. Hamilton, who dissents from the opinion entertained by the late Dr. Rigby of the *great frequency* of placental presentations; and I may state, in corroboration of their very rare occurrence, that my father, who has been engaged in the practice of midwifery for nearly forty years, and for a great part of this time has delivered from 150 to 200 women annually, has not met with more than six or seven such cases: two of these died, the first from turning being too early attempted, the second from its being done too late. In the first, my father says, "I thought from my reading I could not turn too early, and the fatal result of this case may perhaps account for my delaying too long in the other."

I may add, that I quite agree with the remark at the conclusion of the report of the case referred to, as to the little use which is to be derived from transfusion, not only after excessive loss of blood, but even in cases where the loss has not been so considerable. Probably similar effects to those related in this case would have followed upon the mere mechanical distension of the

vessels, even upon the injection of water.—I remain, sir,

Your very obedient servant,

JAMES BORRETT,
Physician-Accoucheur to the Lying-in Charity, Norwich.

Norwich, June 24, 1837.

CASE OF SIXTY STONES IN THE BLADDER.

To the Editor of the Medical Gazette.

SIR,

THE following case of stone in the bladder may not appear devoid of interest to some of your readers, not only in consequence of its presenting some remarkable features, but because it was made the subject of the lithotriptic operation. Though the result was nugatory as regarded the fate of the patient, it was nevertheless not entirely unsuccessful as regarded the comminution of several of the calculi; as was amply shown by the quantity passed *per urethram* during life, and the numerous fragments which were found in the bladder after death. But for the small capacity of the deceased's bladder and the feeble impulse given by the stream of urine, in consequence, much of these would probably have been discharged. It will appear evident, that unless the patient had survived long enough to admit of the operation being several times repeated, ultimate success could not have taken place; and such an expectation was entirely precluded by his exhausted condition. The contracted condition of the bladder probably prevented any thing like a correct notion from being formed, during life, of the immense number of calculi which it contained, otherwise the operation might have been considered unjustifiable.

The instruments employed were made according to the improved models of Civiale, and I had reason to be well satisfied with their construction.

I am, sir,

Your obedient servant,

T. M. GREENHOW.

Newcastle-upon-Tyne,
June 18, 1837.

Jacob Liddell, æt. 70, quarryman, from Corbridge, admitted into the Newcastle Infirmary, February 4, 1837,

with stone in the bladder. Has suffered for several years from the ordinary symptoms of the disease, but within the last nineteen months they have become much more urgent. A large sound can be passed into the bladder with considerable ease, which immediately comes in contact with one or probably more stones; they do not, however, appear of large size. The urethra and bladder are very irritable, and though no obstruction is offered to the passage of the sound he complains a good deal after the operation. In person he is tall and bony, and has the appearance of having been a very powerful man; but his figure has shrunk, his strength has given way, and his countenance bears the marks of organic disease and long-continued suffering. Bowels rather confined.

Ol. Ricini.

10th.—Complains much.

R Sod. Carb. 3j. Mucilag. Acac. Mist. Camph. aa. \mathfrak{z} iv. Sp. Æther. Nitrici, \mathfrak{z} iii. T. Opii, gtt. xxx. M. Cap. \mathfrak{z} iss. ter die.

17th.—Has required mild aperients during the week, but thinks the mixture affords some relief.

20th.—Mixture loses its effect. Complains much of frequent painful micturition; very little urine passed at once. Bowels confined.

R Magnes. Carb. 3ij. Mucilag. Acac. Aq. Menth. aa. \mathfrak{z} iv. T. Hyoscyami, 3ij. Sp. Æther. Nitrici, \mathfrak{z} iii. M. Cap. \mathfrak{z} iss. ter die.

21st.—Has considerable pain at night.

R Ext. Colocynth. c. Ext. Hyoscyami, aa. gr. v. M. omni nocte sum.

23d. — Bowels purged. Complains much, and is getting very weak.

R P. Rhei, Sod. Carb. aa. gr. x. Aq. Menth. \mathfrak{z} j. Sp. Æther. N. \mathfrak{z} ss. T. Opii gtt. xxx. M. h. s.

25th.—On the whole easier.

27th.—Complains a good deal, and has occasional sickness.

Cap. Haust. Efferv. cum T. Hyoscyami, gtt. x. 3tia quaque horâ. Cont. Anod. h. s.

28th.—On his first admission he declared himself averse to being cut, and that he was desirous of having the stones crushed in the bladder. On this day, therefore, the lithotriptic operation

was performed. The bladder, which is very irritable, would only admit a very small quantity of warm water when injected. The instrument was passed with ease, and some calculi were seized and crushed by acting with the screw. He did not complain very much during the operation, perhaps scarcely more than when he had been sounded, which was always attended with pain, in consequence of the great irritability of parts. After the operation an ounce or two of fluid was discharged, in which no *débris* was found. An opiate was given at bed-time.

March 1st.—Has not passed a good night; complains of soreness in urethra; no tenderness of abdomen. Pulse rather full; urine contains minute portions of calculous matter; bowels not open.

Enema Purg. quamprimum Anod. h. s.

2d.—Urethral soreness; slight feverish excitement; but these symptoms were present before the operation. Bowels well opened.

3d.—Complains much of irritation in urethra; some detritus and mucus in urine, which is passed very frequently. Bowels not open.

Enema et Ol. Ricini si opus sit. Anod. h. s.

4th.—Still complains much in voiding urine, which contains a large quantity of mucus; weak and desponding. Bowels confined.

Enema et Mist. Purg.

5th.—Medicines have not operated.

R Calomel Pp. gr. xii.; Ext. Colocynth co. \mathfrak{z} ij. M. fiant pil. xij. capt. ij. 2da q. hor. donec op.

6th.—Bowels have been well opened; on the whole easier to-day.

R. Mucil. Acac. Mist. Camph. aa. \mathfrak{z} iv.; Potass. Nitr. \mathfrak{z} j.; T. Opii, gtt. xl. M. capt. \mathfrak{z} iss. ter die.

Cont. Anod. h. s.

7th.—Bowels purged; weak.

Mist. Cretæ, \mathfrak{z} iss.; T. Opii, gtt. x. M. diarrh. urgent sum. Beef tea. Sago with wine.

8th.—Purgings checked, but is feeble; has vomited, and takes little food.

Enema Anod. h. s.

9th.—No vomiting since yesterday; one stool; better night on the whole; has taken more food; urine clearer, but

still contains mucus and minute fragments of calculous matter.

10th.—Very weak; passes stools and urine involuntarily; tongue dry; moans much; pulse rapid and feeble; appears dying; at one P.M. died.

On the 11th, at nine A.M. post-mortem examination took place. No marked morbid appearances were found in the abdomen, except in the urinary organs. The kidneys were much enlarged; the left one rather firm, with an abscess near the external surface. The right kidney felt soft and flaccid; but when cut into, some portions were found having a firmer and tuberculous appearance. The ureters were considerably dilated; the bladder was of small capacity, with thickened parietes, and was filled with calculi of moderate size; the prostate gland very large, and of firm texture. These parts were removed for further examination. Sixty calculi, of a nearly black colour on the surface, and of various sizes, from that of a nut downwards, many of them having acute angles and points, were contained in the bladder, besides the fragments of several which had been broken during this operation. The whole weighed, when washed and dried, 3iij. 3iv. and 3ij. It is remarkable, that since their removal from the bladder their colour has completely changed into a light drab, nearly approaching to white. The mucous membrane of the bladder, which had sustained no injury from the operation, was thick, rugous, and having indentations or depressions, as if from the continued pressure of the projecting points of the stones.

I cannot convey a more correct idea of the morbid appearance of the bladder and prostate gland, than by referring to fig. 2, plate ix. of Mr. Crosse's Treatise on Urinary Calculi; it will afford no exaggerated impression of the size of the prostate gland in my patient.

PNEUMONIA LIABLE TO BE MISTAKEN FOR FEVER.

To the Editor of the Medical Gazette.

SIR,

THE attention of the profession having been lately called by Dr. Addison, in the Guy's Hospital Reports, to the

diagnosis of pneumonia, and the frequency of its mistake for common fever and cerebral disturbances, I beg leave to offer the following case as an illustration of the latter proposition.

I was requested a few days ago to see John Platter, æt. 14, a stout boy, born of healthy parents. His history ran thus:—With the exception of some of the ordinary diseases of childhood, he has never laboured under any serious ailment; on the contrary, he has uniformly enjoyed rude health. His occupation as an errand-boy has involved active exercise.

Ten days ago, after exposure to wet, he experienced slight rigors, anorexia, giddiness, and general malaise; on the following day there was considerable thirst, heat of surface, increased giddiness, with severe pain in the head, chiefly occupying the frontal region; there was slight dimness of vision, some pain in the left side, and nocturnal wandering. He applied to a medical man, who, viewing the brain as the primary seat of lesion, ordered purgatives, and a blister to the nape of the neck, without any relief.

When I saw him on the tenth day of the disease, he was in the following condition. Skin dry, and pungently hot; countenance rather anxious; face of an ashen grey hue; tongue dry, and covered with a whitish brown fur. Headache, giddiness, and occasional wandering, still persistent; the pupils were dilated. He still complained of circumscribed pain in the left side, situated over the eighth rib, not notably increased by pressure or a deep inspiration. There was much thirst, complete anorexia, great muscular debility, and languor. The pulse was 120, moderately full, compressible; respiration 32. From the time of his first seizure there had not been the slightest cough or expectoration, or any marked dyspnoea. On examining the chest minutely (the pungent heat of skin having led me to infer pneumonia), I found deficiency of movement in the ribs of the left side, which emitted a dull sound when percussed. The auscultatory indications were over the lower two-thirds: complete absence of the natural murmur, and in its place, tubular respiration and bronchophony. No crepitation. Over the upper-third, vesicular murmur deficient, but perceptible. On the right side there was puerile respiration,

and the parietes answered healthily to percussion.

This is only one, though certainly the most marked, of several similar cases which I have seen lately. It appears to me one of great practical interest, and affording another proof of the value of auscultation. That the above was a case of recent pneumonia I do not for a moment doubt; the boy's previous history and robust health quite negative the possibility of any old inflammation leaving a consolidated viscus. The disease had completed its second stage. The lung was perfectly consolidated, without any of the ordinary symptoms of pneumonia. The pain in the chest was entirely overlooked, or possibly attributed by the practitioner (a non-stethoscopist) to hepatic hyperemia. In the other cases which I have seen, bronchitis, to a greater or less extent, generally supervened about the sixth or seventh day; cough and brick-dust expectoration then appeared.

I am, sir,
Your obedient servant,
ALFRED ASPLAND.

Hackney, June 24, 1837.

PECULIAR FORMATION OF THE BICEPS MUSCLE.

To the Editor of the Medical Gazette.

SIR,

I VENTURE, through the medium of your valuable journal, to point out a curious derangement of structure, which appears from observation in the dissecting-room to be of no unfrequent occurrence, but which has not, I think, been noticed by surgical or anatomical writers.

I have three times during the last season found the tendon of the long head of the biceps cubiti detached from its natural origin at the glenoid cavity, but adhering instead, and still by its extremity, to the upper part of the bicipital groove; there was consequently a greater length of tendon than usual to this head in the arm, and the corresponding muscular belly was smaller than natural, while that of the short head had become preternaturally powerful. In every instance there was some irregularity at the upper part of the

glenoid cavity, where the tendon should have been found adhering; and in one case a part of the adjoining cartilage had been absorbed, while in the two others this had taken place on the head of the humerus, near the point where the tendon had contracted its new and unnatural adhesion. There was no other diseased appearance whatever either in the joint itself or the neighbouring parts; which seems to show that the detachment of the tendon was the result of accident, and not of any morbid process.

I wish to inquire whether this accident has been observed in the recent state; if so, what are the symptoms it produces, and whether the tendon has ever been found detached and loose in the shoulder-joint?—for if the latter ever occurs, we ought clearly, by careful rest in a proper position, to favour the new adhesion to which the tendon seems prone, and by which the power of this important muscle will in great measure be preserved.

Upon mentioning this matter to Mr. Pilcher, that gentleman informed me that he had also frequently observed this derangement of the shoulder-joint, and particularly since the operation of the Anatomy Act commenced; and that he thought it principally met with in aged subjects, especially females, from which class our supplies have during this period been so largely drawn. He thinks the detachment of the tendon to be the result of a gradual senile change in a part so constantly employed. The last subject, however, in whom I observed its occurrence, was a fine muscular man, of the middle age.

I remain, sir,
Your very obedient servant,
E. ENFIELD BARRON,
Demonstrator of Anatomy at the
Webb-Street School.

St. Thomas's-Street,
June 24, 1837.

BITE OF THE "TARRARACA."

To the Editor of the Medical Gazette.

SIR,

WHILST reading Mr. Turner's interesting case of the bite of an adder, detailed in the number for this day of the MEDICAL GAZETTE (page 472), I am reminded

of a conversation I had some time ago, on the bites of serpents, with a gentleman from Rio Janeiro, whom I was attending for an attack of acute splenitis.

Serpents abound in Brazil; and my friend told me the bite of one kind of them, called in the language of the country *Tarraraca* (*Crotalus miliaris*, Cuvier?), is so very dangerous, that men and other animals bit by it die in the short space of four hours afterwards. When the blacks of that country happen to be bit by this serpent, they give themselves up for lost. Mules, cows, and dogs, when bit by it, die in a few hours; but my friend said that hogs are bit by it with impunity. These animals are said to give battle to the formidable *Tarraraca*, and even to kill it; and they eat it as the reward of their victory. The impunity which the hog enjoys, my intelligent patient stated, was attributed in the country to the thickness of its skin, and the quantity of subjacent fat preventing the poison mingling readily with the blood of the animal, which it is thought is necessary for the development of the destructive agency of the venom.

The part bit is generally the naked foot of the negro; and when that is the case, the foot, leg, thigh, and even arm, of the injured side, become enormously swollen and intensely painful. These local symptoms are followed or attended by fever, without the super-vention, however, of delirium; and death is the consequence in the course of a very few hours.

My friend mentioned that a black boy of his was bit by one of these serpents, and that the symptoms were as above described. This boy was cured, however, by the very active and skilful treatment of Dr. Smith, of Rio, who bled his patient every day for a fortnight, and at the same time gave him port wine to drink and highly-seasoned dishes to eat, the spirits of turpentine being applied to the swollen parts. The blood drawn at first is said to have been very "bad," but that it improved daily as the boy got better. "Lumps of flesh," my informant said, "came away, not merely from the place bitten, but from other parts of the injured limb."

Dr. Smith's practice has been frequently employed since, it seems, with success, not only on man, but on the in-

ferior animals; at least in the latter, so far as the bleedings are concerned. How far the same treatment may be applicable in the bite of the adder of this country, I do not know; but it might be tried.—I am, sir,

Your obedient servant,
WM. MACLURE.

14, Harley-Street,
June 24, 1837.

FUNGUS HÆMATODES OF THE EYE.

BOMBAY EYE INFIRMARY.

To the Editor of the Medical Gazette.

SIR,

As surgeon for many years to a very large Eye Infirmary at Bombay, in the Hon. East India Company's service, I had the opportunity of seeing some cases of fungus hæmatodes of the eye. I have the pleasure to forward two of the most interesting, should you consider them worthy of a place in your valuable journal.—I am, sir,

Your obedient servant,
WILLIAM JEAFFRESON,
Surgeon Oculist.

38, Clargès-Street, Piccadilly,
June 25, 1837.

A remarkably healthy and interesting child, three years of age, only daughter of Capt. Scott, who commanded a fine ship in the China trade, was brought to me in 1825, as surgeon to the Bombay Eye Infirmary; the mother observing something peculiar in the appearance of the left eye, which she was fearful would terminate in a permanent squint. After having attentively examined the eye, I fancied I saw some discoloration of the crystalline lens; the sight was very imperfect; the pupil more contracted than in the other eye, particularly in a strong light. In order to form a more correct and satisfactory diagnosis, I used the belladonna, which on the following day had done its duty, when I discovered, deeply seated in the posterior part of the eye, a tumor of the size of a small pea. This, from its resemblance, might, in any other situation, have been taken for a finely-polished ruby. Unwilling immediately to alarm the parents, of the formidable nature of this disease, I ordered the patient purgative medi-

cines, strict diet, and the application of leeches to the temple, which were repeated. At the expiration of three weeks I found the tumor had decidedly increased in size, the colour had become more dull, and a large arterial vessel was distinctly seen, with smaller ramifications beautifully spreading over it. I now considered it my duty to disclose to the parents my opinion of the case; and as it appeared, from the child being in good health, a most favourable one for extirpating the eye, suggested the importance of its being done without the least delay, as the only chance of saving the child's life. Before this communication they had a high respect for my opinion in these matters, but one so repugnant to their feelings they thought proper to treat with the utmost contempt; nor would any reasoning induce them again to let me see the poor child. The effects of the belladonna probably going off, again concealed the disease, which, before they had an opportunity of distinctly seeing themselves, perhaps secured them in the hope and belief that nothing of serious importance was the matter. They were strengthened in this delusive hope by the same opinion given by a surgeon they afterwards consulted, since dead, who had the reputation of great skill as an oculist. This gentleman prescribed an eye-water! and allowed the parents to take her home, a distance of some hundreds of miles.

I heard nothing more of this child for about five months, when the mother again brought her to Bombay, and with the utmost sorrow and deep contrition entreated me again to see her, as she said, for the purpose of removing the eye—in short, to do any thing I pleased. The tumor had now increased to the size of a large goose's egg, hanging down to the chin, with a copious discharge, and of a smell so offensive that the house, much more the room, was scarcely bearable. The child had become greatly emaciated; its sufferings had been most intense, with considerable hæmorrhage, for several days previously. Nothing remained, of course, to be done, but to sooth as much as possible the child's sufferings, which fortunately lasted only two days, when death relieved her. I did not remark any thing peculiar in the appearance of the tumor at this time; it had a rough surface, with deepish fissures, and co-

vered with grumous bloody matter. The father was now absent on a voyage, and I could not with all my solicitations get permission to make a post-mortem examination.

Some months subsequent to this, a Hindoo child, nearly one year older than the above, was brought to me with the same disease, equally healthy, resembling in most respects the former case, only that no blood-vessels could be seen over the tumor, which was of a dullish brown colour, having, as in the former case, watched a progressive growth. I extirpated the eye: the patient suffered but little inconvenience consequent on this severe operation. I continued occasionally to see it for more than two years afterwards, when it died from confluent small-pox; it was otherwise apparently in a healthy state. I had not an opportunity of examining the body.

Out of upwards of fifty-three thousand ophthalmic patients I had under my care at the Bombay Eye Infirmary, in little more than ten years, I have seen 25 of what have been designated in the official reports as cases of "fungus hæmatodes." I am bound to say some of these would have been more appropriately denominated cases of carcinoma and melanosis; but as these all require pretty much the same plan of treatment, I may observe, that experience has taught me to be extremely cautious in all; to watch, if possible myself, the enlargement or growth of the disease, before deciding on what I must ever consider a most formidable operation. This I consider of the more importance, from the unsatisfactory results of some few cases; also from its having happened to me to see a person of middle age with a tumor that I should decidedly, *on first sight*, have pronounced as malignant, and requiring this operation, had I not learnt that it had remained stationary from infancy, without any other inconvenience than the mere loss of vision to the affected eye. I am, nevertheless, aware of the great importance of no unnecessary delay, which might deprive us of the only radical cure (supposed or otherwise) of this most truly frightful disease.

MALPOSITION OF THE OS UTERI.

To the Editor of the Medical Gazette.

SIR,

THE perusal in one of the recent numbers of your journal, of some "Remarks on a case of Pregnancy with Imperforate Uterus," by Mr. North, in which he alludes to the malposition of the os uteri, has recalled to my mind a case which occurred to me during the course of last summer, in one of the out-patients of the Dublin Lying-in Hospital, in which this circumstance protracted delivery; and had I not in the early stage of labour ascertained the situation of the os uteri, I might have been led to believe that the uterus was closed, the obliquity of that organ having thrown the os so far to the right side, that as the pains forced down the uterine tumor, which they did to such a degree as to distend the perineum, and to protrude the tumor at the external parts, it was not possible by an ordinary examination to discover the os uteri: it also illustrates the good effects derived from the use of tartrate of antimony in rigidity of the os uteri, as recommended by Dr. Evory Kennedy. I forward it for insertion in your valuable publication, should you consider it of sufficient interest.

July 30th, 2 P.M. I was called to see Mary Ann Henry, æt. fifteen and a half, a young woman of healthy appearance and robust frame. She had been married a twelvemonth, menstruated early in December, consequently about seven months pregnant. She had had pains for twelve hours. On examination I found a firm globular tumor low down in the pelvis, and with much difficulty, from its being placed so high up, and so considerably to the right of the mesial line, succeeded in reaching the os uteri, the edges of which were thin and rigid; it was dilated, but I could not ascertain to what extent; the external parts being also unprepared I left her.

At 10 P.M. I found the uterine tumor by each pain forced lower down in the pelvis; the anterior wall of the uterus being stretched over the head of the child, was very thin, and felt like membranes. I was, however, unable to discover the os uteri, and aware of its

malposition at my first examination, I was desirous of ascertaining if the same state of parts continued. I waited till there was a cessation of the pains, and on introducing my hand, detected it still in its original position; and notwithstanding that she had been in labour twenty hours, and had had strong expulsive pains during the previous two or three hours, they had produced no effect in dilating the os uteri; this not being in a line corresponding with that in which the expulsive power was acting, the pouch of membranes could not consequently get engaged in it.

Position had no effect in remedying this evil, but her sufferings were so severe, that she could not be kept in any one situation for any time. The tumor continued to descend, distended the perineum, and during the pains it was with difficulty that I could prevent its protrusion between the labia; and there was some hæmorrhage. I feared that rupture of the uterus was inevitable if the pains continued violent, as they then were, and the os uteri situated as it was, and indisposed to dilate.

At 12 I gave her half a grain of tartrate of antimony, and repeated it every ten minutes. She took eight doses, after which she became extremely faint, and vomited. Shortly after these effects were produced I found the os uteri was in a central position with respect to the cavity of the pelvis; a pouch of membranes was engaged in it, and it was dilating rapidly. Every thing then proceeded favourably: the child was born at three, with the membranes unruptured till after the expulsion of the head; before the funis was divided the placenta was expelled. The child was extremely small and weakly. The mother recovered without an unfavourable symptom.—I have the honour to be, sir,

Your obedient servant,
ISAAC GUILLEMARD, M.R.C.S.

Tunbridge Wells,
June 24, 1837.

ABDOMINAL ANEURISM.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem the following particulars of a case of abdominal aneurism

worthy of a place in your journal, their insertion will oblige

Your obedient servant,

ROBERT MITCHELL,
Surgeon.

H. G., aged 39 years, a waterman, of temperate habits, generally healthy previous to an attack of cholera in 1833. Since then he had not been so strong. First complained of having pain in the left side in July 1836 (after he had used great exertion in drawing a truck), and which troubled him occasionally till the beginning of February 1837; when it increased considerably, and disabled him from following his usual employment. In six weeks from that time a pulsating tumor presented itself at the lower part of the left dorsal and lumbar regions, and has since increased; and two days before death it measured, from above, on the side of the chest to the cresta of the ilium, fourteen and a half inches; from the spine towards the umbilical region, nineteen inches. On the middle of its surface the skin was in a sloughing state, and separated partially at its edges.

The patient was examined during the progress of the disease by several medical friends, but no one could detect the slightest bruit-de-soufflet, or any unnatural sound, either in the tumor, chest, or abdomen, though they were frequently examined for that purpose: there was no thrill, but simply a pulsation in the tumor, synchronous with the pulse at the wrist. Six weeks previous to death the pulse became extremely irregular, but during the last week it was more regular. There had been no cough or difficulty of breathing till the day before death. He died on the 3d of June.

The body was examined nineteen hours after death, when the following appearances presented themselves:—

The legs, thighs, and scrotum, slightly œdematous. The tumor externally was the size as before mentioned; it had increased very rapidly at the latter stage of the disease: in the centre of it there was a gangrenous portion, about one-third of its surface. It first became in that state about three weeks before death, and had gradually increased in size to that extent.

On opening the chest the lungs were found healthy. There was considerable adhesion of the pleura of the left lung,

and a reddish serous effusion into each pleura—in the right about five ounces, in the left about one pint. The heart was healthy, but very fat. No obstruction in the heart, or vessels leading from it.

The pericardium was adherent to the heart throughout the whole surface. There was no pericardial cavity.

The viscera of the abdomen were in a healthy state, except the liver, which was enlarged. The left kidney, spleen, and descending portion of the colon, were thrown forward to the front of the abdomen. On tracing the aorta from the heart, I found it was enlarged into an aneurismal tumor, immediately after it had passed through the diaphragm: the cavity of the sac contained fourteen pints of coagulated blood, for the most part the remainder was red serous fluid.

The five lower ribs were affected. The eighth was ulcerated at its lower edge; the ninth and tenth very considerably diseased; the eleventh and twelfth I could not discover. The ninth and tenth ribs readily separated from their attachments. The vertebræ were much ulcerated: half the body of one was destroyed.

The muscles were much absorbed, leaving little more than the skin as parietes to the sac externally. The tumor was pressing above on the diaphragm, which there formed its parietes. Towards the abdomen the sac was intimately adherent to the spleen, left kidney, and descending portion of the colon, where the sac was very thick.

The tumor passed downwards into the pelvis within the cresta of the left ilium. The lower opening of the sac into the aorta was one inch above the left renal artery. The opinion I had formed respecting the absence of bruit-de-soufflet proved to be correct; which was that there would not be any obstruction at the opening of the artery into the sac. On passing my finger through the thoracic portion into the sac, I did not find the least obstruction: the opening was rather dilated, the inner circumference being $2\frac{3}{4}$ inches. In the lower opening there was no obstruction: the inner circumference measured $2\frac{1}{4}$ inches.

Manor-House, Deptford,
June 22, 1837.

USE OF FRIAR'S BALSAM.

To the Editor of the Medical Gazette.

SIR,

IN the MEDICAL GAZETTE for June 24th I was surprised, on reading Mr. Pereira's Lectures on Materia Medica, to find the following observations when speaking of Benzoin. Under the head of administration he mentions the compound tincture, and says, "It is a very improper, though a frequent application to recent cuts, since it *prevents* union by adhesion (or as it is commonly termed union by the first intention), yet it is commonly sold in the shops under the name of wound balsam, or balsam for cuts; indeed it was formerly termed, in the Pharmacopœia, Balsamum traumaticum." It is very evident, from this remark, that Mr. Pereira has never seen Friar's balsam, as it is vulgarly denominated, used for the purpose which he describes as being so improper, or that from experience he can say it prevents union by adhesion; for I am convinced that if he had applied it in a few cases of recent wounds, he would hold a very different opinion.

Friar's balsam is a popular remedy, and may be called an old woman's remedy; from this cause alone many surgeons may not use it, and regard it in the light of a quack medicine. Probably on this ground the learned lecturer has become prejudiced against the preparation; but if given a trial, I think it will be found, in many instances, an exceedingly useful application instead of an improper one to recent cuts. Not that it can be supposed to possess any specific or healing properties, its action being merely mechanical, in excluding the air and protecting the injured part from any external influences.

In many cases of compound fracture, where the injury to the soft parts has not been extensive, it will produce the most beneficial results, conducing greatly to further that object which it is our principal care to attempt to effect—viz. to convert a compound fracture into a simple one, by healing the external wound. Mr. Abernethy, in his lectures, recommended the plan of trying to make the wound close in compound fractures, and of even varnishing the dressings so

as to exclude the air. In proof of the good effects of protecting the wound from the influence of the atmosphere, and of leaving it undisturbed, he used to relate the case of a madman who had a compound fracture of the leg. It was dressed and done up in splints; he regarded the operation very attentively, and when the surgeons went away he transferred the splints to the sound leg, and made a hole in the bed, into which he thrust the injured limb among the feathers, which stuck to it and formed a very effectual covering. The next day the surgeons saw that the leg was not swollen, and without inflammation, and agreed that it was best to let it alone; and day after day all went on right, and being struck with this they took off the splints and discovered the trick. They found the other leg with a large ball of feathers sticking to it, and not indeed straight, but perfectly well. The purpose here fulfilled by the feathers is all that the comp. tr. of benzoin is capable of, or even wanted to effect; as to the supposed existence of any healing applications, nobody in the present day will believe in it.

In the Friar's balsam, which is principally a solution of resin in spirit, the latter evaporates and leaves the former on the lint by which it is applied as a mere plaster or varnish, protecting the parts with which it is in contact. I have seen it used in numerous cases of recent wounds of all descriptions, both simple, incised, lacerated, contused, serious, and trifling, with uniform success. Instead of preventing, it has always seemed to me to favour union by adhesion. The principal field where I made these observations was the General Hospital at Bedford, where I was for several years a house pupil, and saw the compound tincture of benzoin very extensively used by one of the surgeons of that institution, who was an exceedingly clever scientific man, and from the benefit of whose instruction I derived many advantages*. Since that time, I have had many opportunities of proving the beneficial effects of this treatment in numerous cases, and particularly on board ship, where the

* The gentleman to whom I allude is Dr. Witt, who, at the time that I am speaking of, was house-surgeon to the hospital: he is now the senior medical officer of the same establishment, and in extensive practice.

Friar's balsam will be found a most useful companion, seamen being constantly in the habit of jamming and injuring their hands.

The best mode of using this application is, after bringing together the sides of the wound or cut, and, if necessary, retaining them in their place by adhesive plaster, to put on a pledget of lint well soaked with the balsam. This at first will occasion considerable pain and smarting; which, however, entirely goes off in a few minutes, and by the time that the tincture has dried, and the lint formed a hard covering, the part will be generally quite easy. This dressing must not be removed for several days; it may mostly be left on for a week with advantage, or even sometimes longer if the part be perfectly easy, which it generally is, except in a very few cases of contused wounds where suppuration occurs and causes irritation.

In the greater number of instances, when the wound is undone it will be found well, if of a trifling character or simply incised; and even in lacerated injuries, union will mostly have taken place to a considerable extent, and the surface of the sore be looking healthy.

It may be said that the tr. of benzoin is a stimulant, and on that account will produce inflammation and prevent union from taking place: its stimulant properties hardly last sufficiently long to have that effect, and it is even *possible* that the slight excitement of the vessels may make them throw out more readily the plastic lymph which becomes the uniting medicine.

It is not uncommon, in cases where there is troublesome hæmorrhage from a wound, arising from numerous small vessels, to expose the surface to the air, and apply cold water till the bleeding has ceased; the divided parts will then look glazed, and as if covered with a gelatinous exudation, which is thrown out by the capillary vessels. If the sides of the wound are now brought together, they will be found to unite more quickly than if they had been closed before the bleeding stopped. The cold water thus applied certainly stimulates the vessels, and acts as a styptic by contracting their orifices; but it is not found to produce inflammation; on the contrary, it promotes the adhesive process, and expedites the union of the divided parts. Is it not *possible* that

the comp. tr. of benzoin may act in a somewhat similar way? But I beg to hazard this as a mere conjecture, and do not wish to lay too much stress on what may be termed a healing property, deeming that by far the greatest, if not the entire, benefit arising from this application, is to be attributed to the exclusion of the air and the quiet of the part. On the attainment of the latter object I place great reliance, viz. that the wound be not disturbed for a week or more.

If no application but that of dry lint be made to a recent cut, patients are not satisfied in many cases unless the dressings are removed in a day or two, to see how it is going on. But if some medicinal substance is used, and the patient is told that it is necessary to its success that the injured part should remain undisturbed for a week, most persons, particularly those among the more ignorant classes, will be contented to let it alone. Friar's balsam also possesses another advantage over lint soaked with blood alone, inasmuch as it is less easily penetrated by moisture, and not liable to crack and be displaced by any motions of the part. The quiet of the wound cannot be too much insisted on; for in many cases dressings are removed too soon, particularly after operations. After an amputation the stump may mostly be advantageously left undisturbed for full seven or eight days. This practice has been recommended by Sir A. Cooper, and is very important, as it is so favourable to union by adhesion, of the benefit of effecting which no surgeon in *this* country will now doubt.

I must now say a few words recommending the trial of the same plan in lacerated and contused wound, as is so much more frequently employed in simple incised ones. The chance of union by adhesion is certainly less in the former, but yet it will be often partially effected, if the proper trial be made, by secluding the air, and keeping the part undisturbed for a sufficient length of time. The sides of the wound should not be forcibly drawn together by adhesive plaster, but only put as nearly in their natural position as can be easily effected, and gently retained there by a few strips of plaster; some lint *well* soaked in the balsam should then be laid on, and the part gently, not tightly, bound up. If much heat or inflamma-

MEDICAL GAZETTE.

Saturday, July 8, 1837.

“Licet omnibus, licet etiam mihi, dignitatem
Artis Medicæ tueri; potestas modo veniendi in
publicum sit, dicendi periculum non recuso.”

CICERO.

EMBALMING,

AND OTHER METHODS OF DISPOSING OF
THE DEAD.

THE disposal of the remains of Kings and other illustrious personages seems to have attracted notice and excited interest in all ages. The earliest records bear evidence of the importance which has been attached to it, and in every country the marks of distinction bestowed on Royal corpses exceed what are shown to those of other men.

In England, as elsewhere, the custom of embalming has prevailed; but the methods adopted have varied at different times. It is in idea only that the attempt to preserve the relics of the deceased has any thing to recommend it: the process itself at the best has little to gratify the mind. Formerly the proceeding was a very elaborate one, but in several recent instances the older and more repulsive methods have been abandoned with regard to our own Royal Family, and a much simpler method adopted. The Princess Charlotte was the last instance of what might be termed regular embalming, and this was conducted under the superintendence of Sir Everard Home, then Sergeant-Surgeon. The practice then, was to place the viscera in an urn, and large incisions were at the same time made in different parts of the body and limbs, to let the fluids drain off: even the humours of the eye were removed, and every precaution adopted for drying the body as much as possible before the embalming properly so called

tion come on, soak the dressings with cold water, which will generally give relief, without removing them. I have seen this treatment attended with great success in several severe instances of laceration of the hand from the explosion of gunpowder, which may be considered as bad cases as can well occur for attempting union by adhesion. In these last kind of injuries, it has been considered by some surgeons that tetanus is more likely to occur when the wound is thus treated, than if (what is called) a more soothing plan be adopted, as the application of a poultice, and suppuration encouraged. But I believe this to be entirely imaginary, and consider that the former mode will be found the more soothing of the two, except in cases where the contusion of the parts has been so considerable as partly to destroy their vitality. The wound is not exposed to the air, nor irritated by the frequent removal of dressings.

And what part in the prevention of tetanus is the encouragement of suppuration to play? The secretion of pus is generally attended with considerable irritation of the system, which would be more likely to give rise to the disease than to prevent its occurrence.

Finally, I have never seen it take place in cases treated as I have described, though it has frequently occurred from wounds dressed in the other method. I do not by this mean to insinuate that trying to heal a wound by the first intention will be any protection against that frightful disease, which depends on some unknown affection or irritation of the nervous system; but as it cannot in any way tend to produce it, we had better leave tetanus out of the question, and endeavour to cure our patient as quickly as possible.

I think, sir, that these few observations are sufficient to shew that comp. tr. of benzoin has no influence in preventing union by adhesion, if they fail to prove that it exerts a decidedly beneficial effect over that process; and if you can find room in the *MEDICAL GAZETTE*, you will by their insertion oblige,

Your obedient servant,
R. H. MEADE, M.R.C.S.

10, Hunter Street, Brunswick Square,
July 1, 1837.

was begun. It is difficult to imagine any thing more revolting to the feelings of surviving friends than such process must necessarily be, and accordingly the then Prince Regent, who made himself acquainted with the details, looked upon them with such repugnance, that he commanded a simpler method to be adopted with regard to the other members of the Royal Family who died during his reign. In compliance with his wishes, neither George the Third nor Queen Charlotte were opened, but simply rolled in cere-cloth, in the manner to be described. With respect to George IV. himself, after the examination of the viscera they were replaced and surrounded by a large supply of an aromatic compound, long used for such purpose. This method, however, was not found to answer well; and in the case of his late Majesty, the viscera, before being replaced, were simply rolled in cloths saturated with chloride of lime.

The post-mortem examination having been completed, the royal body is carefully rolled in bandages of cere-cloth, so as to involve the whole of the limbs and trunk separately; a covering being afterwards applied over the head, and also secured by rollers of the same material. After this, two separate complete coverings of cere-cloth are put on, so as to include the limbs, trunk, and head, and the edges throughout are made to adhere by the application of a heated iron. The body is next covered with white silk, and is lastly clothed in royal purple, tied with white ribbands.

The aromatics used are different balsamic herbs — such as lavender, marjoram, orris-root, myrrh, cloves, and various others; while to the finer kind, used for the internal parts, an addition of musk is made. The “sweets” are mixed with a certain proportion of bran: a layer of this is laid on the bottom of the coffin; the body is then placed in it, and every

part completely filled with the compound. Such is the modern practice in regard to the Royal corpse, but it is in several respects defective, and seems to fail in arresting the common doom of humanity—“dust thou art, and unto dust shall thou return.” Nay, it is even questionable whether the large quantity of vegetable matter employed may not rather hurry on the progress of decay, by promoting fermentation: certain it is, that on a late occasion the coffin burst before the funeral, from the expansive power of the gases generated within it; and in a still more recent instance the bulging of its sides gave timely notice of a similar danger, which has only been averted by boring a hole through the coffin, to act as a safety-valve.

Of the three methods of disposing of the dead which in various ages and countries have been most commonly adopted, burying is the most natural and obvious; burning is the most elegant; and embalming, as it is the most operose, so it is certainly the least agreeable to the taste and feelings.

Perhaps the good and evil attending each method may be summed up as follows:—The great disadvantages of burying are the enormous space which is thus occupied, and the noisome exhalations produced by the imperfect manner in which it is generally performed. At Paris they endeavour to economize space by an outrage to the instinctive sentiments of nature; for with the exception of some cases where the ground has been bought *à perpétuité*, the bones of the dead have only a lease of the grave, and are thrust out, after the lapse of a certain number of years, to make room for new tenants. When we first visited Paris, in 1819, an inscription was to be seen in the Catacombs, giving the number of cubic metres of bones removed from the Cemetery of the Innocents during the

Revolution; but this exhibition, one of the most remarkable in that strange city, has ceased of late years.

If the matter-of-fact question be asked—how long is it before the process of corruption is finished, and earth is reunited to earth? it must be confessed that the answer is difficult and dubious. Something has been done to elucidate this topic by Orfila, in his *Exhumations Juridiques*, as well as by others; but there is great room for further inquiry. Under circumstances favourable to decay, the process, as far as regards the soft parts, is probably completed in a year; while under opposite ones the decay of dead bodies has sometimes been altogether prevented for a very long period. Thus it is said that the bodies of travellers who perish in the deserts of Arabia, or the snows of northern climates, frequently remain entire. In the *Philosophical Transactions* there is an account of a man and a woman who were lost in the great snows on the moors of Hope, near the Woodlands, in Derbyshire, on the 14th of January, 1674. These persons were not found till the 3d of the following May, when they had so strong a smell, that the coroner ordered them to be buried on the spot. These bodies lay entombed in the peat-moss twenty-eight years before they were looked at again, when some of the country people, who had heard of the preservative virtue of the soil, opened the ground, and found them unaltered, the colour of the skin being natural, and the flesh like that of persons recently dead. The place where they lay was then remarked, and they were shown as a sight for twenty years, though they were much changed by being so often uncovered during that period.

Sir Thomas Browne gives instances of long preservation under other circumstances.

“In an hydropical body, ten years

buried in a church-yard, we met with a fat concretion, where the nitre of the earth and the salt and lixivious liquor of the body had coagulated large lumps of fat into the consistence of the hardest castle-soap; whereof part remaineth with us. After a battle with the Persians, the Roman corps decayed in a few days, while the Persian bodies remained dry and uncorrupted. Bodies in the same ground do not uniformly dissolve, nor bones equally moulder; whereof in the opprobrious disease we expect no long duration. The body of the Marquess of Dorset seemed sound and handsomely cereclothed, that after seventy-eight years was found uncorrupted. Common tombs preserve not beyond powder: a firmer consistence and compage of parts might be expected from arefaction, deep burial, or charcoal*.”

The chief advantage of burning, according to Sir Thomas Browne, is that the dead escape all violation of their tombs:—“To be knaved out of our graves, to have our skulls made drinking-bowls, and our bones turned into pipes to delight and sport our enemies, are tragical abominations escaped in burning burials.”

Another advantage undoubtedly would be, that our cities and our suburbs would no longer be filled with the corrupt vapours of putrescent bodies; yet so little does this mode harmonize with modern notions, that, with the exception of the eccentric Shelley, it would be difficult to find an instance in which it has been adopted of late years. The quantity of fuel necessary for this purpose would not be very great.

“Some bones make best skeletons, some bodies quick and speediest ashes: who would expect a quick flame from

* *Hydriotaphia*, p. 48—9; Ed. 1658.

This is not the first hint of the formation of adipocire. Bacon mentions it in his *Sylva Sylvarum*, No. 678. He says, “You may turn (almost) all flesh into a fatty substance, if you take flesh, and cut it into pieces, and put the pieces into a glass covered with parchment; and so let the glass stand six or seven hours in boiling water. It may be an experiment of profit for making of fat or grease for many uses; but then it must be of such flesh as is not edible, as horses, dogs, bears, foxes, badgers,” &c.

hydropical Heraclitus? The poisoned soldier, when his belly brake, put out two pyres in Plutarch. But in the plague of Athens, one private pyre served two or three intruders; and the Saracens burnt in large heaps, by the King of Castile, shewed how little fuel sufficeth. Though the funeral pyre of Patroclus took up an hundred foot, a piece of an old boat burned Pompey; and if the burden of Isaac were sufficient for an holocaust, a man may carry his own pyre*.”

Embalming has antiquity, and but little else, in its favour. The earliest mention made of it is in Genesis, ch. l., where we find that the physicians of Joseph embalmed Jacob before he was buried. According to Herodotus, the Egyptians had three methods of embalming, differing in expense, and probably in efficacy. In the first and best manner, the brains were drawn out through the nostrils, and drugs introduced into the skull. An incision was made into the abdomen with a sharp Æthiopic stone; the viscera were cleaned, washed with palm-wine, and rubbed with spices; and the cavity of the abdomen filled with myrrh, cassia, and other drugs. The corpse was afterwards steeped for seventy days in soda, and being then washed, was wrapped in strips of calico; gum was used in this process, which the Egyptians, he says, were in the habit of employing instead of glue. The body was then put into a coffin shaped like a man, and placed straight against the wall in an apartment for this purpose.

In the second manner the abdomen was not laid open, but a cedrated injection was thrown in, and at the end of the regular time was allowed to escape, bringing with it the putrefied fragments of the viscera. The flesh of the corpse was corroded with soda, so as to leave nothing but skin and bone.

In the third and cheapest manner, nothing was done but washing out the

abdomen, and soaking the body in the embalming liquid for seventy days*.

It is difficult to suppose, however, that the great mass of the population could afford the expense even of the cheapest method of embalming; and it is obvious that this placing of coffins against the wall would take up so much space, that it must necessarily have been limited to a very small portion of the people of Egypt; so that, after all, burying must have been very generally adopted.

Embalming appears from a very remote age to have been the usual method of disposing of the remains of the sovereigns of this country; and, though not conducted with Egyptian skill, seems formerly to have often succeeded in its object.

An old chronicler says of Henry I. of England, who died in 1135, at Château-Lyon, in France:—

“ He was removed to Mary’s Abbey, at Rouen, where next night his swollen carcass was opened by a skilful person, and embalmed. His brain, eyes, tongue, and intestines, were taken out and deposited in an urn, in a church which had begun to be erected by his mother, but was completed by himself. The body being washed with wines, and copiously sprinkled with salt, was sewed up in a bull’s hide to confine the smell, which was now so intolerable as to affect the assistants; and one who had been hired for a great reward to cleave the king’s head with an axe, in order to extract the putrid brain, died from the horrible stench, though his own head was well wrapped round with linen cloths. His body was then brought to Caen, and placed in the church where that of his father was deposited. Yet, notwithstanding the quantity of salt, and the successive hides enveloping it, a black and fœtid matter exuded, which was received in vessels beneath the bier, and thrown away by the attendants in disgust.”

The bodies of James V., of Scotland;

* *Hydriotaphia*, p. 44; Ed. 1658.

* Lib. ii. 86-88.

of Edward VI., of England; of Humphrey, Duke of Gloucester; and of Charles the First, have all, at various periods, been discovered in a state of preservation, which shews at least that the rude methods formerly adopted in this country were not unattended with success.

Upon the whole, we may say, in considering the various methods of disposing of the dead, that burying has the advantage of being most consonant to our feelings. It seems in all ages to have been a common hope of those who felt the sure symptoms of decay, that they should return to their native earth, and that their bones should rest in the burying-place of their fathers.

HARVEIAN ORATION.

THE College of Physicians continues to show their classic taste in the Harveian Oration. It was delivered this year by Dr. Haviland, the learned and accomplished Regius Professor of Medicine at Cambridge. He chose for his remarks the lives and characters of Linacre, Caius, Glisson, and Harvey; and alluded also to the names of Lower, Willis, and others, as constituting with them a bright collection of the names most honoured in anatomy and physiology who had graced the College, and in many instances had, by their bounty, endowed both it and other seats of learning, and contributed alike to the bodily and mental benefit of mankind. Equal to these, the College had produced, in medicine, Sydenham, Moreton, Mead, Radcliffe, &c.; and in more modern times its reputation had been well sustained. He addressed some eulogium on the Fellows who had died during the last year—viz. Drs. Johnstone, Mower, Cholmley, and Yeats; and concluded by a somewhat severe reproof on his associates, for the disposition which had too often been shown among them to admit candidates to their privileges and honours who did not possess that degree of classic and general knowledge and science which had been the basis on which those great men whose names he had quoted had raised themselves and their institution to eminence. “Ante omnia vero principibus nostræ artis cavendum est, ne

vetus illa et usitata societas inter hoc collegium, et antiquissimas ac celeberrimas nostras Academias laxa tandem ne dicam soluta fiat,” were, as far as our memory serves us, the concluding sentence of an oration remarkable for the purity and elegance of its latinity.

EASTERN BRANCH OF PROVINCIAL ASSOCIATION.

THE Eastern Branch of the Provincial Medical and Surgical Association held a local annual meeting, on the 5th of July last, at the Guildhall in Norwich, which was numerously attended. Much interesting discussion took place, not only upon the management of the Society, but upon different scientific topics. The next local annual meeting of the Branch is fixed to be at Colchester, in Essex; and the interest felt and efforts making to embody in this Branch Association a great proportion of the most respectable members of the profession in the eastern counties, show the fairest prospect of being speedily crowned with entire success.

We have given the report of the Council at p. 572.

MEDICO-BOTANICAL SOCIETY.

June 28, 1837.

THE last meeting for the present session was held this evening, Earl Stanhope, President, in the chair.

The reading of a paper by Dr. Hancock was commenced, entitled—

Remarks on Cinchonas; their active Elements and respective Value in Diseases.

The present portion of the paper treated of the differences in the botanical characters of the three species of Cinchona now employed in medical practice. The leaves both of this and of many other plants in tropical countries, are greatly subject to vary; and these disparities, sometimes observable even in different parts of the same tree, are doubtless the effect of age, of difference in soil, site of growth, and other accidental causes. The distinctions, therefore, of oblongifolia, lancifolia, &c. the author thought should be passed over as unworthy of regard, since it is plain they convey no definite knowledge. The bark-peelers are guided only by the characters impressed on the barks themselves,—such as colour, odour, taste, &c.; and, indeed these are far more certain for distinguishing the several varieties—for nothing more,

in the opinion of Dr. Hancock, are the supposed three *species*. On the testimony of Padre Andujar, only two were considered as well ascertained to be distinct species, viz. the Quina roja, or red bark, and the *Noranjada* (orange colour), in which was included both the pale and yellow; the latter from the trunk, the pale from the branches. Although the yellow bark is now most appreciated, as chiefly affording the vaunted alkaloid *quinine*, yet it is the pale bark (*Cascarilla fina* of the Spaniards) which is directed in the Pharmacopœias, and preferred, observed Dr. H., by the most judicious British as well as Spanish and American practitioners, as possessing far greater virtues than any other kind.

Fucus Amylaceus.

The secretary, Dr. Sigmond, next read a communication from Dr. O'Shaughnessy, at Bengal, forwarded through Mr. Peviter, respecting a new species of *Fucus* recently discovered on the coast of that country, and very extensively used as an article of diet, on account of its nutritious and alimentary properties. It is termed by the natives the "Edible Moss," is of a flattened filiform shape, and two inches from the ciliary process corresponding to the root. It is composed of vegetable jelly, analogous with the Pectin of Bracannot, true starch in considerable quantity, wax, gum, sulphate and muriate of soda, sulphate and phosphate of lime, traces of iron, and lastly, ligneous fibre. This, the *Fucus amylaceus*, so termed by the author, is entirely free from the very bitter principles which constitute so great an objection to the other families of the Lichen and *Fucus*. It has been found highly useful in asthmatic complaints, and a few other diseases peculiar to the country; in proof of which, letters were read from Drs. Wallich, Jourdan, and others.

Arsenic in Candles.

Mr. Everett, the Society's Professor of Chemistry, then gave a lecture on arsenic, and its presence in candles. He commenced by some general remarks on its tests, laying especial stress upon four—viz. canary-yellow precipitate, from ammoniaco-nitrate of silver; the green, from ammoniaco-sulphate of copper; the yellow, from sulphuretted hydrogen; and the metallic reduction, by the black flux. He observed that no one of these tests alone could be considered as indicative of the presence of arsenic, inasmuch as each separately was produced by other substances; but that all, together, were made from arsenic, and arsenic alone. He then proceeded to the especial subject of his lecture, the presence of arsenic in the composition candles. He was first induced to suspect the existence of the poison by the

peculiar alliaceous odour which was evolved on blowing out the candle; and he was afterwards enabled to collect a notable quantity thereof, in a glass receiver inverted over a burning candle. The nature of the substance thus collected was demonstrated by the four tests before named, which yielded the characteristic precipitates.

The Professor then proceeded to remark that after the discovery which he had made had been buzzed abroad, he had communicated with some of the manufacturers abroad, who acknowledged that arsenic was employed by them in the composition of these candles. The reason for this is as follows:—Since it has been found necessary to use other materials than tallow, stearine has been added occasionally, as having a higher melting point; but this has a peculiar tendency to crystallize, or *grain*, to obviate which a quantity of wax used to be added. It having been found, however, that arsenic would answer the same purpose, and being considerably cheaper, it was preferred by the manufacturers. The results of the Professor's analysis showed that each candle contained at least two grains of arsenic, and he thought he would be more correct if he said *four*. He left it for the profession to decide whether arsenic, volatilized in the air in this manner, would prove injurious to the human frame. Judging by analogy, he thought that from the effects produced by sulphuretted hydrogen and other gases, the present arsenious gas would prove highly deleterious.

The noble President afterwards made some remarks on the subjects brought before the Society, and on the occasion of its being the last night of the session. The meetings were declared adjourned till November next.

CLINICAL OBSERVATIONS ON OPENING ABSCESES,

Delivered at La Pitié,

BY M. LISFRANC.

[Continued from page 327.]

OF CONGESTIVE ABSCESS.

WHEN a congestive abscess exists, what ought to be done? Many practitioners will not open it, while others make small apertures at as late a period as possible. But let us consider what happens when these small openings are made, and immediately afterwards closed with diachylum. This treatment does not at all prevent the occurrence of subsequent danger. The pus

often becomes vitiated, and it is then necessary to evacuate the purulent fluid at once by a large incision, the very step at first so much dreaded; for if such a source of contamination be left within the system, it leads to rigors, fever, colliquative perspirations, and death.

Boyer advises us to open small congestive abscesses, where there is any reason to fear that the pus will become vitiated. But in order to judge of the size of such an abscess, we must not only consider the point at which it is developed, but also the extent of the passage which it must have traversed to arrive at that point. If it proceeds from an alteration in the bones, or soft parts of the spinal column, or if it be seated in any part of the brim of the pelvis, you may be sure that the abscess is large.

Every one knows that the opening of congestive abscesses, whether effected by nature or art, is very dangerous; but I did not obtain the sad conviction of its danger without attempting to diminish it. I had observed that when the pus begins to be vitiated, it becomes of a reddish hue; the skin covering the abscess becomes hot, and sharp pains are felt on the least pressure: hence I suspected that inflammation must be the cause of the alteration in the pus, and that it should therefore be first subdued.

But to have recourse to the application of leeches against such abscesses was an experiment requiring a good deal of prudence; I therefore resolved to begin with the simplest case, and to apply this new method against chronic abscesses which had supervened without any previous swelling of the tissues, and which, from the extent of the purulent cyst, most resemble congestive abscess.

I resolved first to open freely chronic abscesses, to evacuate the purulent matter at once, and then to apply leeches on the walls of the abscess. Having adopted this treatment in one case with the greatest success, I was emboldened to employ it in cases of congestive abscess, which, unfortunately, are not at all rare; but where the abscesses were large or numerous, where the patients were too feeble, or they had any disease of the viscera, I of course took care not to try this method.

Under this method I have never seen the pus become vitiated. I may add, that many patients have been received into this hospital whose congestive abscesses had been freely opened, and the pus had readily escaped; but in a few months the pus began to be unhealthy. On this I had recourse to local depletion, and it was followed by the greatest success.

My method has been publicly employed

in a great many cases. Some have been radically cured in whom the common modes of treatment had failed; others have retained fistula, which may perhaps be permanent, but their general health has been restored; and some have been able to return to laborious occupations; others have died, but hitherto always long after the opening of their abscesses and the employment of leeches.

During the treatment, it is a good way of clearing purulent abscesses, and thus prevent inflammatory action, to use emollient injections; for instance, one of an infusion of marsh-mallows. It might be thought that these sanguineous evacuations would lead to the reabsorption of the pus. I have not observed it do so; and besides, it has been proved that local tends less than general bleeding to cause such reabsorption, and also that the power of absorption possessed by purulent abscesses is very different from that belonging to recent wounds.

But if all the methods of treatment which I have explained fail, what is then to be done? What I am about to say is confined to old abscesses, which present an adventitious membrane: such an abscess I suppose to be the size of the palm of the hand, and on a part of the body where a scar need not be minded. A crucial incision is to be made, and charpie inserted under the lips of the wound, which are kept elevated; the charpie should not be moistened with cerate, in order that it may excite the more inflammation.

When suppuration has detached a great part of the charpie, it should then be removed, and the dressing of the abscess should be every day renewed. If the plain charpie does not excite sufficient irritation, charpie steeped in wine should be used. This produces inflammation, which gives rise to fleshy granulations. The lips are then brought together again, and kept in their place by strips of adhesive plaster. If the adventitious membrane remains obstinate, you then meet with all the characters of an old ulcer of the legs to which I have so often directed your attention. In that case, cauterize with nitrate of silver, and use irritating injections or applications: if these means fail, touch the indolent tissue, to the extent of an inch, with the liquid protonitrate of mercury. This is rather with a view to destroying these tissues than of exciting them to any new action.

The cautery must not be applied extensively, for we know what fatal consequences have resulted from its too free application. We sometimes have to cauterize repeatedly; but this should be done only every four or five days. In this way the

membrane is almost always removed, and healthy granulations begin to form.

If, nevertheless, the cautery fail, you must, with a pair of scissors curved on the flat side, pare the surface of the abscess, raising it as much as possible from the surface beneath. I insist on these points, because I have seen old purulent abscesses, which had resisted every other means, yield to cautery; but the crucial incision can only be looked on as a last resource. If all these measures are unsuccessful, you must employ injections; and I think none so useful as those of the chlorides of soda and lime.

Although the injection may not at first excite any appreciable inflammation in the abscess, yet its strength should not be increased till after several days. When the suppuration becomes more abundant, and is of a reddish colour, it shows that inflammation has reached the requisite point, and we thus learn what effect the injections have had. These injections of the chlorides cannot, of course, be made if the abscess is very extensive and near very important organs; for in the first case it might excite too extensive inflammation, and in the second the inflammation might reach the neighbouring organs. It is proper to continue the injections and to keep up the irritation, even though a good deal of pain and heat of skin may be excited.

Now when an abscess has begun to heal, the practice of those surgeons is to be greatly deprecated who introduce a sound every day into the cavity, to ascertain how the process of restoration goes on. Besides giving unnecessary pain, it must often destroy the new adhesions, and retard the cure. Instead of this, I use an expulsive bandage, which both evacuates the pus, and by compressing moderately the walls of the cyst, aids cicatrization.

If an accession of inflammation supervene, the use of the injections must be omitted, and our treatment must be guided by circumstances. If there is violent fever and reaction, I employ leeching; but if the fever is moderate, I allow the inflammation to go on, for you know that it often exercises a most powerful curative influence. When the inflammation has subsided again, you re-apply the expulsive bandage in this way, and the parts often heal.

All that I have said concerning the use of the chlorides, is applicable also to fistula, whose condition resembles that of purulent cysts.

But if you have followed all the principles which I have laid down, and yet do not obtain a cure, you are not to suppose that those means will be always ineffectual. Though you may have failed

once, or a second time, you must recommence the injections, and re-apply the expulsive bandage; in short, repeat your treatment, and you will generally succeed.

With regard to the callosities which are often situated around purulent abscesses, and old fistulous passages. In treating of ulcers, I told you that it was difficult to obtain a cicatrix in indurated tissues, and before attempting it, that it was necessary first to restore them to their healthy condition. The principle, then, is to attack the callosities: if there be pain, we must leech; if not, different ointments, (such as one of hydriodate of potass) are useful, and sometimes incisions at some distance from each other, are to be practised. After these means are tried, and fail, setons and long pieces of prepared sponge may be had recourse to. A pencil of nitrate of silver may also be usefully passed through the fistulous passages; or, still better, a camel's-hair brush, dipped in a solution of the acid protonitrate of mercury.

You will occasionally find that fistulæ, in healing, form small purulent deposits. The cause of this, I take to be, that the healing sometimes commences both at top and at bottom, and thus a small abscess may be included; but when it has emptied itself of its contents, the parts are in a state most favourable for cicatrization, and soon heal.

A NEW ARITHMETICAL PRODIGY.

A BOY who is able to perform very complicated arithmetical operations mentally, was exhibited at the sitting of the Academy of Sciences on the 19th of June.

His name is *Vito Mangiamele*, and he was born in a village in the environs of Syracuse; he is the son of a shepherd, and has been a shepherd himself. The person who has brought him from Sicily says that he is ten years and a half old. At a very early age (says this same person) he showed a great readiness in calculating; and the compendious methods by which he solves the questions proposed (which he generally does in a much shorter time than can be done in the ordinary way and with the pen in one's hand), are entirely of his own invention. The only thing which he has been taught is the meaning of the words employed in arithmetic—such as *square*, *cube*, *power*, *root*, *ratio*, &c. This child has not that appearance of suffering which one too often sees in little prodigies, and which shows that they are worn out by toil. His plumpness and rosy complexion bear witness to his good health, and the composure of his features while solving a

problem, proves that he is not doing any thing unpleasant to himself. His features are deficient in delicacy, but there is something agreeable in their *ensemble*.

The following questions were put to him :—

1. What is the cube root of 3,796,416 ?

In less than half a minute the child answered that it was 156 ; which is right.

2. What number has the following properties : if its cube is added to five times its square, and then 42 times the number, and also the number 42 are subtracted from the result, the remainder is equal to zero ?

M. Arago repeated this sentence a second time, to be certain that he had heard the numbers ; but while he was finishing the last word, the child replied “ the number is 5 ” ; which is right.

3. A number is raised to the fifth power ; 4 times the number is then subtracted, and also 16,779 ; the remainder is zero.

The child was now four minutes without answering. M. Arago then asked the person who accompanied the child if he wished an easier problem to be proposed, as the Academy could not spend much time upon this examination. He answered, that the young calculator could not attend to any fresh question while his mind was occupied with the last.

At the end of about another minute the child said that the number was 7 ; which was right again.

4. Lastly, he was asked the 10th root of 282,475,249.

In two minutes he answered that the number required was 3. This was not correct, and he was told so ; in a few seconds he said that the root required was 7 ; which is right.

A commission, composed of MM. Lacroix, Arago, Libri, and Sturm, was appointed to examine the young Vito Mangiamele, and report the result of their examination to the Academy.

DEATH FROM PRESSURE IN A CROWD.

A PAPER, by Dr. Ollivier, of Angers, was read on the 20th ult., giving an account of the persons squeezed to death on the Champ-de-Mars, the 14th of June, 1837.

Twenty-five persons perished, of whom 11 were men, and 12 women ; their ages varied from 8 to 75.

Among the women there were five who were decidedly fat.

All of them, men and women, died standing ; so that more than one corpse was borne along in this attitude by the crowd.

In all, without exception, the skin of the face and neck was of a uniform violet tint, spotted with blackish ecchymoses. In 9 there was infiltration of blood under the conjunctiva of the eye. In 4 there was sero-sanguineous froth running from the mouth and nose. In 4 there was blood flowing from the nostrils. In 3 there was blood flowing from the ears. In 7 fracture of the ribs. There was no mark either of strangulation or of a wound by any stabbing or cutting instrument.

It is obvious from these signs that all these individuals died from asphyxia, produced by violent and continued pressure on the chest ; and an idea may be formed of the force of this pressure from the fractures of the ribs observed in one-third of the victims.

Sixteen bodies were opened. In all the blood was black, diffuent, and filling all the large veins which enter the heart. The pulmonary tissue was mostly of a reddish brown, and in three-quarters of each lung, posteriorly, there was a considerable accumulation of black and liquid blood ; but there was no ecchymosis either on the surface or in the substance of the lungs. In all the cases where the conjunctiva was raised by infiltrated blood, and in those where blood had flowed from the ears, the vessels of the pia mater and of the substance of the brain were gorged with blood. The uterus of one woman contained a foetus of from 5 to 5½ months old. Thus every thing combined to show that death was the result of the suppression of the mechanical phenomena of breathing.

MEDICAL PRACTITIONERS IN RUSSIA.

ALTHOUGH in a practical sense there is little difference in the duties performed by the different practitioners, of whatever rank they may be, still the superiority of rank is, in point of etiquette, most rigidly enforced in all cases where form is allowed to exercise its prerogative. There are several classes of practitioners, but the deference paid to each is not in a ratio with their medical, so much as their military or civil ranks. The degrees conferred by the Universities are the following :—Physician ; Surgeon in chief ; Surgeon in ordinary ; Staff surgeon ; Surgeon's mate ; Hospital mate ; Barber surgeon ; Apothecary.

In general practice there is no positive distinction in the labours allotted to the three first ranks. The physicians and the surgeons, in most cases, practise indiscriminately all branches of the profession.

If they hold official situations in the military or civil service, then the difference of rank becomes immediately sensible. The physician receives homage from the surgeons, takes precedence as he passes through the wards of the hospital, signs documents, and makes valid his rank by several operations. The hospital mates, dressed in military uniform, march up and down the wards, half, face about, and stand attention, as their superiors command them; for all society in Russia is divided into ranks and classes, and medical men are included in this category. Schlutzer informs us, that in 1781, "a physician ranked with a major in the army, and, as such, could drive four horses to his carriage; whilst those of inferior rank could drive only two. An apothecary at court had the rank of captain, and his apprentices the rank of ensigns. The surgeons of the district had the rank of lieutenants." In the present day, physicians are ranked in the eighth class of the nobility, and surgeons in the seventh.

There are few instances, perhaps, where any practical use or abuse of such a division can be allowed to operate, but in some cases the possibility may exist. It is almost a law of the realm that no individual holding superior rank, whether civil or military, can be in the wrong in case of dispute with an inferior; and the spirit of this law is not without its influence in medical concerns. The superiority here alluded to is the honorary rank conferred by the crown, and not the medical one granted by the universities. Two physicians, of equal standing in medical honours, may be widely separated in civil or military rank; and he who bears no insignia of the order of St. Anne or St. Vladimir must give way in consultation to him whose breast is adorned with stars or crosses.

The physician, when called to the service of the imperial person, the *Leibmedicus*, or body physician, takes precedence of all his brethren, and his opinion must prevail in all cases where there is any official duty concerned. In the former part of this sketch it was mentioned that one of the Czars, suspecting that the illness of an illustrious individual was rather to be construed into a disinclination to appear at court, sent his body physician to ascertain the fact. Very similar proceedings take place in the present day. Patients, attended by ordinary physicians, are occasionally visited by body physicians, in order that they may enjoy every possible medical advantage, and this frequently without their request.

The hospital mates and surgeons' mates are completely under military control, although attached to civil institutions. They

are subjected to punishments of various kinds for any impropriety of conduct.

The apothecaries, as before observed, are not to be considered as the same class of men who are so denominated in England. They are mere venders of drugs and preparers of recipes, and their shops are all licensed by government.

The first court, *Apteka*, was founded by an Englishman of the name of Frenshman, who arrived in Russia in 1581. He is reported to have brought with him an immense quantity of drugs; but it was some time before the natives understood the necessity of having recourse to medicine. The high price at which drugs continue to be sold in Russia would almost be proof sufficient that the *aptekas* were established by one of our countrymen; for, if apothecary's gain be synonymous with exorbitant charge in England, it is equally so in Russia. There is no country in which medicines are so highly charged; indeed, the price is almost double what it is in England. The apothecary's charge in Great Britain is not supposed to be in relation to the cost of the material; the value of his prescription is embodied in his draught, and is the means of his remuneration for his time and talents. The matter is very different in Russia, where the apothecary is the compounder only, and should be satisfied with a fair profit upon the material, as the prescription has already been paid for; whereas, the prices he pleases to put upon it allows of no such consideration on his part. It is true that there is a tariff for the price of medicines, to which he is compelled to adhere; but this is excessively high, and not regulated by the current prices of the drugs imported into the empire. The proprietors of these *aptekas* are almost all Germans.

The regulations which were promulgated by the court physician, Dr. Blumentrost, in the time of Peter the Great, have, with very slight alterations, been handed down to the present time, and many of these are very excellent in their kind. To prevent mistakes arising from an imperfect knowledge of the Latin language, it was ordered that all prescriptions should be translated into Russian, and deposited in the chancery. The name of the physician and of the patient, together with the date of the day and month, were also registered in a book. The necessity of translating the prescription is now abandoned, but all the recipes are deposited in a drawer, and are not allowed to be given back; notwithstanding that each is copied into a daybook, which is subjected to the inspection of proper authorities, who pay regular visits to the *aptekas* for the purpose of examining the nature of the recipes. Not only are the original prescrip-

tions not allowed to be returned, but a repetition of the same medicine cannot be procured without the physician's signature. A copy only is permitted to be issued from the apteka. From the same conservative principles, wholesale dealers in drugs are not allowed to sell them in small quantities. No medicine is allowed to be dispensed without being sealed with the private seal of the owner of the apteka, or with the seal of his establishment; for each shop is licensed under some specific name, generally taken from the name of the street in which it is situated; and the number of these is limited. This limitation in the number dates also from a remote period, and proceeded from good intentions; for it was asserted that the number of aptekas should be in a ratio with the demand for the medicines, and that, on the one hand, there should be a sufficient competition to prevent the public from being overcharged, and, on the other, not so great a supply as to allow the drugs to remain too long on hand, and be spoiled by age.

It is difficult to legislate in such matters; but the practitioner in Petersburg will find the advantage of sending his prescriptions to the aptekas which are in vogue, for the same recipe prepared in a frequented shop, or in one not much frequented, may show two very different things.

If poisons are prescribed in any dangerous quantity, the physician is compelled to sign his name in the *poison-book*, and state for what purpose he has prescribed the poison.

When these establishments were first instituted, they were all under the direction of an officer of state, who was styled the *Apteka Bojar*. They are now under the superintendence of a Chancery (*Physicant*), which is a court of appeal and punishment. If a physician can prove that any mistake has been committed in the preparation of his recipe, or that the drugs are not of good quality, it is the apothecary who suffers. If he can prove that the physician has made a mistake in the writing of the prescription, the apothecary is at least absolved, unless he magnanimously consent to take the blame upon himself. If the shop-boys are in fault, they are subjected to corporeal castigation.

The last class is the *Tsirulnik*, or barber-surgeon, and is a numerous and thriving brotherhood. It falls to their lot to bleed, cup, draw teeth, apply leeches, and perform other little jobs of minor consequence. They are well paid for their trouble: five roubles, or 3s. 6d., is the common fee for their operations, and they are in great request.

There are no distinct aurists; aural sur-

gery forming part of the practice of the ordinary surgeons. There are likewise but few oculists who devote their whole time to the diseases of the eye. Many physicians and surgeons include the treatment of these diseases in their general practice.

Dentists abound in every street, and their profession is perfectly distinct, and not within the pale of the medical faculty. There are no distinct chiropodists in Russia.—*British and Foreign Med. Review*.

ODOUR OF MUSK EXHALED FROM THE SKIN.

A GENTLEMAN of athletic frame and powerful constitution, but immoderately addicted to the abuse of ardent spirits, became subject to violent attacks of delirium tremens. The delirium and sleeplessness usually lasted many days, and he required very large doses of opium before relief was obtained. I saw this case in many of the paroxysms in consultation with Mr. Rumley and Mr. Colles. We were often obliged to persevere in the exhibition of opium long after that medicine had induced the greatest possible degree of contraction in the pupils, long after they were in fact reduced to the size of pin-holes, and by this perseverance, and by means of increasing and not diminishing the dose of the drug, we procured profound and long-continued sleep, followed by a subsidence of all the symptoms. This bold exhibition of large and repeated doses of opium was advised by Mr. Rumley under circumstances which would have deterred me from this course, for I must confess that when the pupils become contracted after considerable doses of opium, and that the sleeplessness and delirium continue, I never feel disposed to urge the remedy further, for I fear cerebral congestion and effusion. Mr. Rumley, however, having attended this patient in all his attacks of delirium tremens, had thoroughly studied the effects of opium on him, and had ascertained the safety of continuing its use in this particular case, under circumstances usually believed decisive of the necessity of discontinuing this medicine.

When this patient had been a day or two seized with a fit of *delirium tremens*, his pulse became very rapid and his skin moist, and the perspiration which soon flowed abundantly was accompanied by the exhalation of an odour exactly similar to that of musk. The smell of musk became so strong in a day or two, that it could be perceived in every apartment, and even in the hall, although the patient slept in the chamber above the drawing-

room, and lived in a large and well-ventilated house. Dr. Elliotson has referred to several cases somewhat similar in his work on Physiology. I may remark that the odour of musk gradually disappeared with the other symptoms of the attack.—*Dr. Graves, in Dublin Journal.*

STATE OF MEDICINE IN ARABIA.

THE following are some of the most curious points, in an Arabic manuscript on medicine, found at Algiers, and lately sent to the Academy of Medicine of Paris:—

1. Vaccination has existed from time immemorial among the Arabs.

2. Bleeding at the feet and the head is frequently employed.

3. Glandular swellings about the jaws are very common; they are treated by a very strict regimen for forty days, after the manner of Hippocrates.

4. Chronic ophthalmia is very common, and is treated with nitrate of silver, imported from abroad.

5. They apply simple dressings and butter to wounds.

6. In cases of fracture they place the limb in an immoveable apparatus, somewhat resembling that of M. Larrey. It is made of argillaceous earth, the white of eggs, and reeds for splints.

7. Goitre is very common, as well as the plague and the cholera.

EASTERN BRANCH OF THE PROVINCIAL ASSOCIATION.

REPORT OF THE COUNCIL.

THE second year being now far advanced since this Association, embracing the eastern counties, was set on foot, a statement seems due to the present assembly, explanatory of the proceedings which have taken place since the general meeting held at Ipswich on the 6th of June in last year, as well as of the present condition of the Association, and the ideas entertained regarding its future prospects.

It will be recollected that at the general meeting referred to, Cambridge was selected as the place for our assembling this year, in the confident expectation that the Parent Association would meet us there under the presidency of Professor Haviland; but reasons were urged by this gentleman, as well as by other eminent members of the profession residing on the spot, in favour of the Association being better received in that ancient seat of learning after a year or two of delay; and it soon became evident that Cambridge must be

relinquished for the present, when Cheltenham was selected for the place of rendezvous of the General Association. Many of our members having by letter expressed their wishes on the subject, the Council, at a meeting held on the 4th of May last, acted on the energy in a way which it is hoped will be approved by every well-wisher to the Association, by summoning the present meeting in Norwich for transacting the requisite local business. The subject most influential upon the future prospects of the society, is its coalition with the Parent Association, which desirable end, as has been already made known to each member, was not at once attained by the deputation sent to Manchester, but has since been brought to a successful issue in a manner and upon conditions which it is requisite fully to detail, not only for the satisfaction of the members here present, but for obtaining their concurrence and support in so important a measure.

It appearing, by the communications from the Council of the Parent Association, that if the Eastern merged into it upon the same terms as any individual member joins, "it might retain its local organization—be governed by its own laws, with the sole restriction that those laws do not contravene the few and simple laws of the General Association—have its own Council for district purposes—hold its own meetings not only annually, but as often as disposed, and thus, as a district branch, accomplish, according to the intelligence and energy of its members, every purpose sought by negotiation, without interfering with the constitution of the original Association, and without any formal compact."

The ideas above expressed, contained in lengthened communications from Worcester, were immediately submitted, as far as possible, to the consideration of our members, and the opinion of a majority was expressed for acceding to the views therein contained. The Council of the Eastern Branch met on the 12th day of October, when, acting on behalf of the members at large, it resolved unanimously—

That the members of the Eastern should immediately become members of the General Association, still retaining for local purposes, as a district branch, their present laws and regulations, as sanctioned at Ipswich.

The Council at Worcester having confirmed this decision, Volume IV. of the Transactions was distributed to each Eastern member answering to his first annual subscription, and the balance upon an audit of accounts to the end of the year was transmitted to the treasury of the General Association. The number of

members of the Eastern branch who paid their subscriptions for 1836, and who were thus received into the General Association, was 170; and the renewal subscriptions of the present year, with several new members who now propose to join, gives every encouragement for believing that the number will be increased. In the meantime we have to regret the loss of several valuable members by death, although the proportion is smaller than we can reasonably expect to record in succeeding years: one most respectable member was long an ornament to the military branch of the profession, and for many years a practitioner in this county; a second member, Mr. Le Neve, of Barrow, in Suffolk, took a lively interest in the first formation of this society, in the prime of life, and in the midst of well-requited and meritorious efforts, he fell a sacrifice to the fatigue of his duties under an attack of the recent epidemic influenza. The only other death within the year is that of a most venerable associate, who had indeed the talent to aid us, had he been called forth on such an occasion at an earlier period—the late Dr. Nathan Drake, of Hadleigh, a man so well known in the literary world as an accomplished scholar and an elegant writer—so justly esteemed for moral refinement and social worth, that the insufficiency of this brief notice can only be compensated by an extended memoir of his life being printed in the *Transactions of the Association*.

The effect of the Eastern merging into the General Association at so late a period of last year, when already Volume IV. of the *Transactions* was in the press, and a great part of it printed, has been to exclude the papers of several of our associates; and one paper only from an Eastern member has been published; but in future such obstruction cannot arise; and the facility of an early publication, and the great circulation at once insured (1200 copies of each volume being worked off, a thousand of which get into immediate circulation amongst a corresponding number of the members of this widely-extending and unparalleled society), will serve as a powerful stimulus to the members residing in these counties to offer their practical and valuable contributions; and thus benefit themselves, the profession, and the public at large.

It is through the influence of the press, and the wide circulation of an annual volume, that the Association possesses the power of advancing our science, and morally enforcing the adoption of any reasonable and important measure. The medical care of the Poor, a branch of political economy just rising into consideration, and in which the acts of government,

however well intended, seem to have encroached severely upon the interests, and still more upon the respectability, of the profession, is a subject only to be adjusted through the press. To neglect this subject when so many of the profession feel themselves aggrieved, would be inexcusable in an Association established for the general good; and in proof that it has not been neglected, besides the evidence afforded in Volume V. of the *Transactions*, we are glad to report that, pursuant to a circular letter received from the central, petitions, couched in various terms according to the different views and feelings of the signers, have been prepared in nearly all these eastern counties, and been separately forwarded to one or both Houses of Parliament.

Having thus noticed the most important transactions of the past year, it only remains for your reporters to advert to the future prospects, in so far as they be considered dependent upon the more perfect organization of the Eastern Branch. The laws sanctioned at the last general meeting have to be remodelled, to meet our present position, and will readily, with few changes or deductions, be brought into accordance with the simple laws of the General Association; but the greatest measure for the more effectual working of our department, appears to your Council to be the holding, in each central or large town in a county, meetings of the members of this Association, for purposes of local interest as well as for those of general science, with a view to elicit the talents and knowledge of each member however remote, and to convince all respectable practitioners in these eastern counties that their best interests (most effectually to be promoted, undoubtedly, by themselves) will, to the utmost possible degree, be upheld by this Association and by the Council, to which its management, from the infrequency of general meetings, must in a considerable degree be consigned.

REMARKS ON THE PROPOSITIONS CONTAINED IN THE

REPORT OF THE POOR-LAW COMMITTEE

OF THE PROVINCIAL ASSOCIATION.

By W. M., Esq.

With Notes by the Secretary of that Committee.

[Communicated by Mr. Rumsey.]

UPON the important subject of providing medical relief for the sick poor, it is a

matter so beset with difficulties, that it is much easier to state objections to the various modes that have been suggested, than to offer any unobjectionable substitute for them. As to the form of remuneration, a return to specific charges, which, however, I am not aware has been customary in pauper practice (1), is met by the strong objection arising from the power which it would leave to the medical attendant to send more medicine than absolutely necessary; or in a variety of forms, so as, in fact, to make the amount of his charges *optional* (2). A similar objection, in some measure, presents itself to a stipend according to the number of patients in a given sphere of duty, since, unless in every case an order was previously obtained from the relieving officer, it would create an interest in the practitioner to augment the number, by a record of every trifling and transient ailment (3), and thus in either case the expenditure for medical relief would be fluctuating and uncertain (4), which, it appears, is one of the objects of the new Poor-law arrangements to avoid.

However convenient in certain situations the establishment of parochial dispensaries may have been found, I cannot, upon mature consideration, see that they would be at all eligible for the scattered population of rural districts. In the larger towns, where the friends of the sick are making applications for medicines at almost every hour in the day, no place can be so convenient, both for the applicants and the medical practitioners, as the house of the latter; for there he attends to the calls of his private practice and unprofessional concerns, and is most likely to be found in his leisure,

for it cannot be expected that he would devote the latter to attendance at a dispensary, or that it would be convenient to repair thither upon every occasion (5). If, in the union of several parishes allotted to the care of two or more practitioners, a dispensary were established, and for an equalization of their duties, situated in a central point (6), it would be obviously attended with the greatest inconvenience, unless at their joint charge they kept there a duly qualified assistant to perform the more common and irregular duties, for otherwise it would entail upon them a daily journey to the dispensary, which would not carry them to the bed-side of any patient severely ill, whilst the outdoor patients could just as conveniently attend at their houses. Although in genteel and opulent localities it may be as practicable as it is desirable to separate the charges for drugs from those for skill and attendance, it is much to be questioned whether in many places it would not be met by as many difficulties as the present system; for I believe most country practitioners can bear testimony that the charges for journeys constitute by far the most objectionable items (7) of a medical bill; and it must be within the experience of many, that there is a certain class of patients, who, unless their ailments are of an alarming nature, will allow parsimony to obstruct the practitioner in his duty, and such would probably, when attendance shall be charged for, and the charge for medicines be reduced, be induced by the same principle to take medicines with less reluctance, whilst the practitioner would find that his visits, which are now

(1.) The ancient mode of remunerating a medical man for attendance on the sick poor was invariably by defraying his separate charges; it was only when pauperism became so prevalent that contracts were resorted to, as a matter of necessity.

(2.) Whatever plan of remuneration be adopted, I contend that there ought to be a Poor-law Medical Board; and if there were such a Board no charges would be "optional;" they would be regulated by authority.

(3.) I think that every "trifling and transient ailment" should be attended to and recorded. How much protracted misery to the poor—how much expense to the parish, would be saved—if an inducement were afforded to the medical man, at a small cost to the parish, to attend to every trifling case. Fraudulent attempts on the part of the surgeon to increase the amount of attendance, or the number of cases, might be checked or detected by the Medical Board before mentioned.

(4.) As to the expenditure for medical relief being "fluctuating and uncertain," why should this not depend upon circumstances as well as pecuniary relief? Who would now be permitted to supply the paupers with money or provisions at a fixed contract? If contracts at a fixed sum are decided to be the best form of medical remuneration, let some better reason be found and alleged for them than that the rate payers may have to pay "even money."

(5.) Surely the plan of a separate *dépôt* for drugs need not involve the surgeons "repairing thither upon every occasion;" could he not write prescriptions at his own house?

Most, if not all, of Mr. M.'s objections to this proposition, is from his taking for granted that the surgeon should attend at the dispensary, for which there can be no reason.

(6.) We never thought of proposing that the dispensary should be at a "central point," or at any considerable distance from the medical man's house; the convenience, and the benefit of the patient, are sufficient reasons against such an arrangement.

If the supply of drugs cannot be separated from that of medical attendance, *which in a few cases we are prepared to admit*, (although there are more ways of accomplishing this than may appear at first sight), surely the charges for, or cost of the two articles, may be separated.

(7.) I cannot, and never could, see the difficulty of separating the charges for drugs from those for attendance in general practice.

Why do patients object, as Mr. M. says, to the charges for journeys under the present system? simply, I answer, because other patients living nearer the practitioner pay only for medicines. The distinction is invidious and glaring. If *all* paid for their visits a sum graduated according to the distance, the charge for the journeys would immediately lose its obnoxious character.

so gratifying (8), would often be dispensed with, or become visibly unwelcome. In the general application of the proposition, however, (a separation of charges for attendance from medicines) if it shall be found practicable, there can be no doubt that it would tend eminently to improve the condition of the profession, and would be no less beneficial to society in general.

It will be perceived by the tenor of the foregoing observations, that of the various modes proposed I am an advocate for a "stipend according to the gross population." It is, in my opinion, the least objectionable mode of providing medical relief for the sick poor. It harmonizes with the only plan by which the independent labourers can possibly provide medical relief for themselves—that is, by mutual assurance (9); and as the medical practitioner must provide medicines at his own cost for the latter (10), so I submit he should also for the pauper class. Indeed, if, for a certain sum per head upon the gross population, the medical practitioners undertake to supply all necessary attendance, including journeys, medicines, instruments used in surgical operations, with the exception only of cases of midwifery, and such instruments and bandages as require to be permanently worn, (as trusses, &c.), it appears to me that it would be a much more *simple, unvarying, and practicable system* than any other that has occurred to my consideration; and for the more prompt and effectual attention to the sick, I beg to submit that nothing could be so conducive as the appointment of more medical officers, and that the parishes of the Union, and those of other Unions which more conveniently come within their circle of practice, be as fairly as may be divided among them (11). The

(8.) How "gratifying" to the surgeon (!) must be his visits, when he is not paid for them, and when the cunning patient won't take medicine. For my part I would readily put up with a diminished frequency of visits, if I were to be paid for those I did perform. What more do we want? Who likes to work for nothing?

(9.) Mutual assurance implies necessarily that each assurer should contribute according to his liability to require the benefit, and according to the value of such benefit. If ever Medical Clubs and Self-supporting Dispensaries are formed upon this simple principle, they will be not only unobjectionable but most valuable institutions.

(10.) Why is he to provide medicines at his own cost for the latter? Why should existing absurdities be perpetuated?

(11.) Who is competent to divide the parishes among the practitioners? certainly not a Board of Guardians. Parliament should limit, by a fixed maximum, the amount of duty undertaken by any one medical man; and then each parish and each surgeon might arrange according to their own convenience, subject to this limitation. Such a mode would surely be better than any medical districts.

condition of that class which we will indulge a hope may hereafter be called the Independent Labourers, I fear will never be so much ameliorated as to enable them to pay the charges which must accrue for medical attendance in severe and long-protracted cases of affliction. Mutual assurance, therefore, is the only plan they can adopt; but before they will be able to afford sufficient and appropriate terms to the medical practitioner, they must be allowed to partake of the benefits arising from the operation of the new Poor-law.

W. M.

CAUTION—THIEVES.

To the Editor of the Medical Gazette.

SIR,

A GANG of thieves are calling on many members of the profession, generally wishing to know the midwifery fee, &c. I have lost a book by them, and a friend who I had cautioned caught one with Turner's Chemistry in his possession, but let him off. Pray insert this notice, and if it occasions one of the batch to be caught, I will cheerfully commence a subscription towards defraying any expenses a professional man may be subjected to by prosecuting.—I am, sir,

Your obedient servant,

W. T. ILIFF.

Newington, July 5, 1837.

GENERAL ELECTION.

To the Editor of the Medical Gazette.

SIR,

THE prospect of an early dissolution of Parliament having afforded an opportunity of communicating personally with members and candidates, on the grievances of which medical men generally now complain, a meeting of the resident practitioners was recently held, at which several resolutions were passed, and a deputation appointed to wait upon the several candidates for the representation of this city, to present the resolutions, and to request them on all occasions to uphold the independence of the profession.

I am happy to state that each candidate expressed his entire concurrence with our views, and declared his determination to support our cause.

Your insertion of the above will, I trust, lead to similar steps in every constituency

throughout the kingdom. A simultaneous effort cannot but have a beneficial influence in the new parliament.

I am, sir,
Your obedient servant,
JOHN HAINWORTH,
Hon. Sec.

Lincoln, July 3, 1837.

REFLEX FUNCTION.

To the Editor of the Medical Gazette.

SIR,
DR. MARSHALL HALL deigned, in your last, a few lines in reply to my claims respecting the discovery of the reflex function of the nervous system. I willingly admit both myself and my argument to be Irish, but cannot say that the Doctor's answer is so evidently English, for the word anachronism, as used by him, forms no part of the vocabulary. Imitating Dr. Hall's laudable brevity, I must refer your readers to the dates and matter of our different publications, a proceeding that may yet lead to a very different estimate of the validity of claims which I wished to press without (to use his own phrase), really interfering with his *pretensions*.

I am, sir,
Your obedient servant,
ROBERT J. GRAVES.

9, Harcourt-Street,
July 3, 1837.

DISCOVERY OF HAIRS IN THE INTESTINES OF HORSES.

M. MAILLET, of Alfort, has, by numerous dissections, proved that hairs exist in almost all horses, in some parts of the digestive canal. These hairs, generally visible to the naked eye, are found especially in the pylorus and in the stomach, more than in the intestines. They are also frequently seen in the colon and in the cæcum of the same animals. M. Cruveilhier and others have examined these hairs, and find them to resemble very much those of the skin.—*La Presse Médicale*.

COLLEGE OF SURGEONS.

LIST OF GENTLEMEN WHO RECEIVED DIPLOMAS IN MAY.

H. J. Steuart, Jermyn Street.—G. Brunton, York.—E. W. Gray, A.—J. Wiblin, Bath.—G. M. Cheyne, E. I.—J. Waddy, Co. Wexford.—T. Peregrine, Half Moon Street.—T. B. Mercer, Deal.—R. Jones, Newton, Montgomeryshire.—R. Staning, Oxford.—T. P. Atkinson, Kilham, Yorkshire.—W. Cockcroft, Middleham, Yorkshire.—T. Johnson, Manchester.—T. Small, Boston, Lincolnshire.—R. A. Calvert, Ballebay, Monaghan.—M. Verdon, Drogheda.—J. D. Blake, Ladyrath, Meath.—W. Weddell, Easingwold.—W. Croke, Magour.—G. Gray, Aberdeen.—

W. Pratt, York Terrace, Regent's Park.—J. B. Moore, Kirby Fields, Leicester.—W. H. Moore, Woodbridge.—J. J. Mantell, Farringdon, Berks.—F. H. Tucker, Halifax, Yorkshire.—F. S. Darbey, Drogheda.—J. Allen, Manchester.—R. Phillips, Haverfordwest.—Duncan D. M'Cay M'Donald, Dublin.—R. B. Bellyse, Audlem, Cheshire.—T. M. Hancock, Halse, Somersetshire.—H. Cantis, Charlotte Street, Fitzroy Square.—J. Harford, Bristol.—E. Taylor, Driffeld.—K. Kannan, London.—H. Latten, Bromley, Kent.—C. B. Dyer, Grantham.—T. L. Watkin, Newcastle upon Tyne.—R. F. Gregg, Kirby Lonsdale.—T. D. Griffith, Shrewsbury.—J. L. Marriott, Rochdale.—J. H. Sutton, Yoxall, Staffordshire.—H. D. Glasse, Droxford, Hants.—J. S. Little, Artillery.—A. Harmer, Ipswich.—T. Cam, Hereford.—A. Greer, Omagh, Tyrone.—A. Elliott, Omagh, Tyrone.—T. L. Walford, Colchester.—H. L. O'Hara, A.—J. Butler, Callan, Kilkenny.—G. Mearns, Inch, Aberdeenshire.—W. Vores, Northampton.—J. C. Hunter, Portglamone, Derry.—T. Morris, Pallas-Henry, Limerick.—T. Ayling, Liss, Hants.—J. Chapman, Barbadoes.—S. Woods, Roscrea.—T. Wright, Wolverhampton.—M. B. Gallwey, Barnstable.—J. W. Harris, Exeter.—C. Gray, Edgworthstown, Longford.—H. Peacock, Exeter.—W. Dougall, Maghrea, Derry.—C. M. Frost, London.—H. Shore, Sheffield.—E. J. Barker.—J. Probert, Lydbrook, Gloucester.—J. Teale, Leeds.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, July 4, 1837.

Abscess 1	Heart, diseased 1
Age and Debility 30	Hooping Cough 6
Apoplexy 1	Inflammation 22
Asthma 5	Bowels & Stomach 2
Childbirth 3	Brain 3
Consumption 44	Lungs and Pleura 5
Convulsions 31	Jaundice 1
Croup 2	Liver, diseased 2
Dentition or Teething 2	Measles 16
Dropsy 6	Mortification 3
Dropsy in the Brain 10	Paralysis 2
Dropsy in the Chest 2	Scrofula 1
Erysipelas 2	Small-pox 4
Fever 15	Spasms 3
Fever, Intermittent, or Ague 1	Unknown Causes 7
Fever, Scarlet 4	
Fever, Typhus 4	Casualties 9

Decrease of Burials, as compared with the preceding week } 210

NOTICES.

Dr. Ashwell's paper has been received: we regret that, owing to the GAZETTE being published earlier than usual this week, we were prevented from inserting it in the present number, as he requests.

Dr. Borrett will perceive that we had anticipated his wishes.

ERRATUM.

IN our leader of last week we quoted the well-known line—"For fools rush in where angels fear to tread;" but by an awkward blunder, "*fear to*" was converted into "*dare not*,"—a reading sufficient to make Pope uneasy in his grave, and which we therefore hasten to correct.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JULY 15, 1837.

ABSTRACT

OF

LECTURES DELIVERED BEFORE
THE COLLEGE OF SURGEONS,

In April 1837,

BY PROFESSOR STANLEY.

LECTURE V.

ON THE REGENERATION OF BONE.

THE next subject for consideration is the regeneration of bone in the different circumstances of necrosis, as they vary in regard to the situation, and the extent of the bone which has been deprived of its vitality.

If the surface of a bone have perished to a limited extent, producing a superficial necrosis which implicates only a portion of the thickness of the walls, the dead bone will be exfoliated or absorbed, but no reproduction of bone will ensue. It is true that when the external wound has healed, the surface of the bone may present no irregularity perceptible externally when the bone lies near the skin, as in the front of the tibia. But yet the filling up of the excavation has been effected only by a dense fibrous tissue, and in these cases, if the bone be macerated, the excavation which the exfoliation had produced will be clearly shewn, and it will be found that no reproduction has taken place.

If, from peculiar circumstances attendant on the occurrence of necrosis, the wall of a bone perish, while the medullary texture is left perfect, and the periosteum is preserved entire, then there may be a complete reproduction of the walls effected by the vessels of the periosteum. This Mr. Stanley believed to be a case of rare occurrence, and of which he presented what he considered an unique specimen, which had occurred in the tibia. There

had been a deep phagedenic ulcer on the leg, and to prevent its destructive progress, nitric acid had been applied; its action penetrated to the periosteum, and was followed by inflammation of that membrane over the entire circumference and length of the bone. The walls to the same extent perished. Both the drawing and preparation which were exhibited shewed the dead walls, separated both from the periosteum and from the medullary texture, while the new walls were seen in progress of formation between the dead bone and the periosteum, which had previously covered it. Its peculiarity consisted in the death of the entire walls, while the medullary texture retained its vitality, in a manner strikingly different from the more common instances, where, when necrosis affects the whole thickness of a bone, it includes at once the walls and the medullary texture. The reproduction of the bone in these last is the next subject for consideration.

When the whole shaft of a bone has perished, it may be reproduced from three sources.

1st. The articular ends of the bone, which are very rarely implicated in necrosis.

2d. The periosteum which invested the dead bone.

3d. The soft parts indifferently, whatever their nature may be, which surround the periosteum, supposing this to have been destroyed either simultaneously with, or subsequent to, the death of the bone.

Of these, the most important to be considered, as an agent in the reproduction of bone, is the periosteum. It is not, however, to be supposed that what has often been maintained of the periosteum being the only tissue capable of forming bone, is true; for there are but few organs or tissues in the animal body whose vessels, either in disease, or in the natural progress of age, may not deposit osseous matter. But there can be no doubt that the

vessels of the periosteum, under any circumstances of irritation, are peculiarly prone to ossific action. In this fact there is perhaps nothing more than a marked example of the general principle, that all similar fibrous textures are when in a state of vascular excitement, especially disposed to the formation of bone. For example, if a person be for many years tormented with an ulcer over the front of the tibia, where there is but little thickness of soft tissues, the periosteum will become implicated; its constant irritation in the course of some years produces an abundant and extensive ossification; and often on examining a limb after such circumstances, the periosteum covering the whole of the tibia and fibula, is found ossified, and in addition the interosseous ligament may (as in the specimen shewn), be found converted into a plate of bone.

So important is the influence which the periosteum exercises in the reproduction of bone, in consequence of its being perhaps more prone to form osseous matter than any other fibrous tissue, that in all cases in which bone has been lost, whether by necrosis or external violence, the chance of its reproduction, and the perfection of the process, are materially influenced by the condition of this membrane. But it is too much to assert that it is absolutely necessary for the reproduction, and that this can occur only from its surface. In reference to this point, Mr. Stanley had repeated the experiment already made by another pathologist, and to which he had before made allusion in the preceding lecture. A portion of the radius in its whole thickness, and with its periosteum, had been removed from the fore-leg of one dog; and from the fore-leg of another, a similar piece of the radius, but with great care for the preservation of the periosteum, which was merely slit, separated from the bone, and turned aside, so that the required portion could be removed. The result of the experiment showed decisively the influence of the periosteum in the reproduction of bone; for on killing both dogs ten weeks after the operation, it was found that in the dog whose periosteum had been left, reproduction so complete had taken place that by examining the specimen (which was shown) it could scarcely be discovered that such an injury had been inflicted; while in the other dog whose periosteum had been removed, a false joint had formed between the divided ends. Notwithstanding this result, however, Mr. S. did not think that this experiment was sufficient to prove that without the periosteum the bone could not be reproduced, but rather that the formation of the false joint was owing to the impossi-

bility of maintaining the ends of the bone in apposition and quietude; the absence of which circumstances was equally favourable to it and disadvantageous for the union by bone. Such a conclusion seemed warrantable by the reproduction of the portion of bone (often of considerable size) which was lost in cases of compound fracture, as already mentioned. The portion of bone may here have been either removed by the saw or exfoliated: in either case the periosteum must have been destroyed, and yet the reproduction of bone takes place.

To observe the circumstances of the reproduction of bone in necrosis, Mr. Stanley repeated the experiment which was first, he believed, performed by Troja, an Italian pathologist; which consists in destroying the medullary texture, and thus producing the death of the walls to the extent of the injury done to the medullary texture. One specimen of many thus obtained, and an enlarged drawing of it, were exhibited. The wall of the tibia of a dog had been perforated, and the medullary texture destroyed by an instrument introduced into it: the walls of the bone had consequently perished, and the shaft had been by the natural processes separated from the articular ends. The periosteum quitting its hold of the dead bone, had become the formative organ of the new bone, of which the osseous matter was secreted from its internal surface; and in this way the same periosteum which had covered the old bone was become the periosteum of the new.

Here then, again, it is by the vessels of the periosteum that the new bone is produced; but still the conclusion must not be that periosteum is essential to the reproduction of bone, and that without it this process cannot take place. Mr. S. made the following experiment on a dog's tibia:—He removed the periosteum and destroyed the medullary texture simultaneously, yet the reproduction ensued, and this evidently by the vessels of the surrounding cellular tissue, which had become exceedingly condensed and adhered to the surface of the new bone, forming, in fact, its periosteum.

Thus far is the subject illustrated by experiments upon animals. It is next to be considered as observed in man: but here, of course, the successive stages of necrosis cannot be so satisfactorily examined. In man it can very rarely be examined in an early stage, because it seldom produces death, or requires amputation till somewhat advanced. Besides, there is a material difference to be seen in the process as it occurs in man and in animals. In the former, the death of the shaft of one of the large cylindrical bones is

usually attended by the destruction, from suppuration and ulceration, of the periosteum; while in the latter (as the dog) the whole process of death and reproduction of bone may take place without any destructive process occurring in the soft parts surrounding it: from this circumstance, an essential difference arises in the mode of reproduction. From the numerous opportunities which Mr. S. had had of investigating the subject in man, he entertained no doubt that in some cases the necrosis of the bone and its reproduction took place without coincident destruction of the periosteum, and that then the new bone was formed from the inner surface of this membrane, just as he had described it to be in animals. The cases especially illustrative of this were those of necrosis of the shaft of some small cylindrical bone, as the clavicle or ulna: here the process usually goes on with no further affection of the surrounding soft parts than simple thickening, and destructive suppuration and ulceration rarely occur.

But in the more common cases, as in the necrosis of a large cylindrical bone (as the femur) in man, one large abscess, or numerous small ones, form in the soft parts immediately surrounding the dead bone, and one or two pints or even more matter may be accumulated, and extensive ulceration accompanies its progress from the deeper-seated tissues to the surface. With all these circumstances, it need not be matter of surprise that there should be more or less complete destruction of the periosteum which had invested the old bone, and yet the formation of the new bone may be completely though tardily accomplished. Mr. Stanley here produced a specimen of necrosis of the tibia, which he declared to be the best he had ever had an opportunity of examining in the numerous collections which he had searched. He had received it from Sir James M'Grigor, of whose kind liberality he begged to make this public acknowledgment. The interest of the specimen consisted in the beautiful manner in which were exhibited in it all the circumstances of the reproductive process; particularly the formation of the new bone upon the internal surface of the periosteum, separated from the old one, and the layer of soft vascular substance between the new and the old bone, which was the agent for the absorption of the latter. [A magnified drawing, representing these circumstances, was also shown.]

In addition to the periosteum and the surrounding soft parts, the articular ends of the bone, whose shaft has perished from necrosis, have also some influence in its reproduction; for luxuriant granulations will arise from their surfaces and become

ossified, and will be at last united to the rest of the new bone produced either by the periosteum or by the other soft parts; as was also shown in the same specimen from Sir J. M'Grigor.

In the reproduction of the entire shaft of a bone, a remarkable instance is observed of what the natural powers can accomplish; but they are not always sufficient for this purpose. The shaft may have perished, and it may have become completely separated from the living ends, and yet the process of reproduction may take place to only a limited extent, or it may wholly fail. These observations, which are of much practical importance, lead to the consideration, whether by art, any assistance could be afforded to the accomplishment of this process; and, at least, they point out the danger that would result from incautious interference. The most important thing to be learned would be the conditions necessary for the complete accomplishment, by the unassisted powers of nature, of the two principal objects in necrosis—viz. the removal of the dead and the formation of the new bone. But, unfortunately, the causes which modify and prevent this end are in great degree hidden, as they are also in a number of other cases, in which we are altogether unable to account for the imperfect manner in which particular actions are carried on.

In some cases, and these in whatever circumstances the death of the bone has taken place, whether from constitutional or local cause, from external violence or otherwise, the necrosed portion will still retain its connexion with the living bone, and no effort for its exfoliation may ensue. Mr. Stanley had seen cases where, many years after the death of a portion of bone, it was found to have undergone no change whatever; nor had any separation whatever of it from the living bone taken place. In many cases the cause of this failure of separation seems inexplicable: in some it may arise from simple debility, or a peculiar derangement of the system; or it may be the effect of a diseased condition of the soft parts surrounding the dead bone. This is perhaps capable of illustration by those cases in which necrosis takes place from the influence of venereal disease. In these, a portion of the front of the tibia, for example, having perished, and the skin covering it ulcerated, dead bone is exposed, and becomes perfectly black; but it undergoes no further change. At length, after it has remained in this condition for some months, a suspicion begins to be entertained of its syphilitic nature, and mercury is administered; when, as soon as this remedy commences to affect the system, the sore assumes a

healthy character, and the process of the separation of the dead bone commences. It may be, however, that the mercury excites the absorbents to action independently of their influence on the constitutional affection; and Mr. Stanley had, indeed, seen so many cases which would support such an idea, that he would always recommend the effect of a gentle mercurial action to be tried, where the exfoliation of the dead bone was taking place only very slowly.

A certain degree of irritation in the soft parts around a necrosed bone seems to be a necessary condition for exfoliation. It is to be observed, indeed, that all the means which have at various times been employed to accelerate the exfoliation of dead bone, have had this as a single and constant result; for instance, the actual cautery, and the mineral acids, which had been used for dissolving it, can be of avail only by exciting irritation in the surrounding soft parts.

But, as has been before said, the separation of the dead bone may be complete, and yet the reproduction of the new one may take place very tardily, or may fail altogether. Two circumstances seem to have an important influence on the reproduction of the bone that has perished—viz. the situation of the dead bone, and the mode of occurrence of the necrosis.

For instance, a portion of the cranium perishes and exfoliates, but it is never reproduced. Here it may be that, since with the death of the bone its periosteum of one surface, that is, the pericranium, perishes too, there will be no bed of cellular tissue to serve as a matrix for the reproductive vessels. But there are other instances where the reproduction fails, and in which such an explanation cannot be admitted. Why, for instance, should a part of the upper jaw fail to be reproduced, while in the lower the process constantly succeeds? The regeneration of a portion of the sternum, or of a rib, does not appear to have been witnessed, nor of any of the short bones of the tarsus or carpus, nor, except rarely, of those of the metacarpus or metatarsus.

It may probably be affirmed that the reproduction of bone lost by necrosis is limited to the cases in which it suddenly and completely perishes, and in which there is no circumstance to check the occurrence of inflammation in the periosteum and surrounding soft tissues, which must be the first step in the process of reproduction. Where, on the contrary, the bone perishes very slowly, as under the operation of some morbid poison, or where the surrounding soft parts are diseased, the reproduction is not to be expected. Hence, when these cases are met with, where,

especially in the tibia, the bone has perished slowly, and the surrounding soft parts are in a very diseased state, no doubt can be entertained of the propriety of amputating the limb, for the chance of exfoliation of the dead bone is but small, and of reproduction of a new one none at all. The disease which the soft parts are affected with in these cases is altogether different from the simple inflammatory processes succeeding to a sudden and complete necrosis, and which, as has been before said, may be regarded as constituting the first step necessary for the reproduction of the lost bone.

The new bone thus produced possesses the complete organization of bone in its healthy and original formation. It has not as yet been found possible to inject its absorbent vessels; but from the actions which are observed to take place in it after its complete formation, there can be no doubt of its possessing all the apparatus of nutrition—arteries, veins, and absorbents; and besides, nerves. It may, in short, be assumed, that the newly-formed bone is as complete in all its vital as in its physical properties, resembling completely in both that to which it has succeeded.

ON THE

DISSOLUTION OF GRAVEL AND STONE IN THE BLADDER.

BY A. CHEVALLIER,

Chemist; Member of the Royal Academy of Medicine, of the Council of Salubrity, &c. &c.

Translated from the French,

BY EDWIN LEE, M.R.C.S. &c.

Author of "An Account of the Watering Places of the Continent;" "Observations on Continental Medical Institutions and Practice," &c.

[Continued from page 548.]

Experiments on the Dissolution of Calculi in the Mineral Water of Vichy.

First experiment.—Half a calculus of uric acid, weighing an ounce, a drachm, and twenty-six grains, was placed in a small cotton bag, and exposed to the action of the water of the Grand-Puits, from the 4th to the 11th of September (151 hours). Although the calculus was smooth when put into the water, when taken out it was rough, and its surface covered with inequalities, and it had lost during the seven days six drachms forty-seven grains, being more than two-thirds of its weight.

The temperature of the water in which the calculus was placed being 44° 50, we thought it advisable to place other calculi in water having a temperature approaching to that of the urine in the bladder; this trial forms the subject of the next experiment.

Second experiment.—Five calculi: the first of phosphate of lime, light, of a greyish colour, weighing one drachm, eighteen grains; the second of uric acid, yellow, without coating, weighing one drachm, eight grains; the third, also of uric acid, but of a brown colour, weighing twenty-five grains: the fourth and fifth, consisting of the remnants of phosphatic calculi, weighing, the one twenty-nine grains, the other thirteen grains, were put into a cotton net-bag, and exposed on the 5th of September to the action of the water which overflowed from the fountain of the Grande Grille, and had a temperature of 37 C.

Desirous of seeing, on the 11th of September, what changes had taken place, we were much astonished at finding nothing in the bag in which we had inclosed them, and which had remained fixed under the flow of water. As no one knew that we were making experiments at this part, and as the bag remained in the same state, we were led to think that the calculi composed of uric acid had been dissolved, while those composed of the phosphates had been broken down to fragments, which had escaped through the meshes of the net*.

Third experiment.—A uric acid calculus, entire, smooth, covered with a thin white coating, and weighing two drachms, five grains, was placed under the overflowing water from the fountain of Grande Grille, inclosed in a small bag, and at the expiration of seventy hours had lost forty-one grains of its weight. The white coating had entirely disappeared, and the calculus had become full of little holes.

Fourth experiment.—A calculus of oxalate of lime, of a black colour, weighing one drachm twenty-two grains, and inclosed in a small bag, was also placed in the overflow of the Grande Grille, where it remained seventy hours. This calculus was not sensibly altered by the experiment. Some cracks were, however, observed to have oc-

curred in it, and it had lost two grains of its weight.

Fifth experiment.—A shell of uric acid of a yellow colour and great hardness, weighing one drachm twenty-three grains, was also placed in a small bag and exposed to the action of the water of the Grande Grille during seventy hours. When examined at the expiration of this time, only forty-one grains of its weight remained—fifty-four grains having been dissolved.

Sixth experiment.—Half a calculus of uric acid, the exterior shell of which was of a white colour, while the centre presented a black point, weighing a drachm thirty-three grains, was in like manner exposed to the action of the water during seventy hours. When taken out, the white part of the external layer was almost entirely destroyed. The central portion was also dissolved, and disclosed a nucleus of oxalate of lime. It had lost forty-six grains of its weight.

Seventh experiment.—A small uric acid calculus, weighing sixty-eight grains, and covered with a white concretion, was for a like period exposed to the action of the water of the Puits-Carré; and on being subsequently examined, it was found divided into several fragments, which did not weigh more than fourteen grains, fifty-four grains being lost. We do not, however, believe that these were all dissolved, but very likely some of the smaller fragments had been carried away through the meshes of the bag.

Eighth experiment.—Half a calculus of uric acid, having shining laminæ in its centre, was treated as in the preceding experiments. At the expiration of the seventy hours it had lost seven grains of its weight, which before the experiment was thirty-five grains.

Ninth experiment.—A quarter of a calculus, composed of phosphate of a white colour, very hard, and weighing thirty-two grains, was treated in like manner. On being taken out of the water it only weighed sixteen grains, and had become very friable.

Tenth experiment.—A fragment of a uric acid calculus, very dense, and weighing forty-four grains, was subjected to the action of the water, in the same manner as the others; and on being taken out had lost eighteen grains of its weight.

Eleventh experiment.—A calculus,

* A portion of calculus of phosphate of lime lost, in two days, one-sixth of its weight, by simple immersion in the water; which circumstance tends to demonstrate the correctness of our conclusions.

nearly entire, consisting of a nucleus of uric acid, covered with phosphate of lime, and weighing thirty-two grains, was exposed in a small cotton bag to the action of the water of the Puits-Chomel, which has a temperature of $42^{\circ}56$ of the centigrade thermometer. On taking out the bag, the calculus was found to be broken into pieces, and that a great part of the fragments, which were very small, had passed through the small apertures in the bag.

Twelfth experiment.—A fragment of uric acid calculus, weighing seventy-one grains, was in like manner placed during seventy hours in the water of the Puits-Chomel. When withdrawn, it appeared as if gnawed away by the water, and its weight was diminished by twenty-five grains.

Thirteenth experiment.—A small entire calculus of uric acid, weighing thirty-eight grains, was experimented upon like the former ones. On being taken out of the water and dried, it had diminished fourteen grains in weight.

Fourteenth experiment.—The fragment of a uric acid calculus, weighing twenty grains, and covered with a white concretion, was treated in a similar manner. On being taken out it did not weigh more than twelve grains, and the white concretion had disappeared.

Fifteenth experiment.—A white shell (forty-eight grains in weight) from a phosphatic calculus, was subjected to the action of the water of the Puits-Chomel, as in the preceding experiments. Though it was very hard before immersion in the water, it had become very friable when taken out, and had lost twelve grains.

Sixteenth experiment.—A small phosphatic calculus was placed on a plate, and Vichy water was allowed to fall upon it through a very fine tube during fifteen days. The point on which the water fell was worn away, and presented cavities which did not exist in the other parts.

Seventeenth experiment.—Some uric acid gravel was placed in the Vichy water, at a temperature of 36° , and soon became decomposed. The uric acid was dissolved, and there only remained a small quantity of animal matter.

The results of the experiments which we have made appear to demonstrate the action which the Vichy water possesses of decomposing and dissolving

vesical calculi. It may, however, be objected, that these experiments were not made under the same conditions as those which come under the cognizance of the surgeon; that is to say, that the stones were not in the bladder. To this objection we reply, that the Vichy water appears to act on calculi contained in the bladder of the living subject in the same manner as it acts on those which have been taken out of the bladder and exposed to the air; in fact, M. Petit shewed us at Vichy several nuclei of uric acid calculi, of which patients had been relieved during the season of 1836, by the sole use of the Vichy water, drank and employed in the form of baths.

One of these nuclei was voided after eighteen days' treatment, by a patient in whom the presence of a calculus adhering to the bladder had been perfectly ascertained by one of the most distinguished surgeons of Paris, who considered the operation to be the only means of cure. This nucleus was very remarkable, inasmuch as the calculus of which it formed part was adherent, and consequently the dissolution was effected in a different manner on its two sides. The non-adherent part had been so acted on by the water, that the successive and continually increasing layers of the calculus were perceptible; while, on the opposite side, nothing of the kind was to be observed.

The other nuclei were from a patient who had for more than two years all the symptoms of stone, suffering very much on walking or riding in a carriage, voiding bloody urine, and who, after having taken the Vichy water, passed three nuclei, one on the nineteenth day of treatment, the other two on the twenty-fifth day. These nuclei did not present successive layers, but an agglomeration of gravel firmly united together.

M. Petit intends publishing the cases of these patients, who were able, immediately after voiding the nuclei, to walk and ride even in rough carriages without experiencing the least pain, and who have remained well ever since.

It may also be said, 1st, that the calculi on which we experimented were exposed to a current of the Vichy water, which would be altered and lose its properties by being drunk or absorbed from the bath. This may, however, be prevented by placing the calculi in di-

rect contact with the water, by means of injections through the catheter with a central partition.

2dly. That the Vichy water may irritate the bladder: by the injections, however, which we have made, no irritation has been experienced; which may be accounted for by the circumstance that the urine loaded with salts is an acrid fluid, and cannot be compared with the Vichy water, which may be drank without any unpleasant sensation being experienced.

3dly. That all calculi cannot be dissolved or decomposed by this water.

We will here observe, that the calculi which we have subjected this year to the action of the Vichy water, have proved to us that uric acid calculi, and consequently those composed of urate of ammonia, may be dissolved by this water, while those composed of phosphate are broken up, and that these are the two kinds of calculi most frequently met with in our country: in fact, it results from the investigations which we have had occasion to make on vesical calculi: 1st, that of 141 calculi which we examined for our colleague, M. Civiale, there were —

121 of uric acid and urate of ammonia*.

8 of phosphate of lime.

7 of ammoniaco-magnesian phosphate.

1 of uric acid, phosphate and oxalate of lime.

3 of uric acid and phosphate.

1 of oxalate of lime.

2dly, that of thirty-two calculi analysed for our colleague, M. Amussat, there were —

20 of uric acid or of urate of ammonia.

2 of ammoniaco-magnesian phosphate.

2 of ammoniaco-magnesian phosphate, with uric acid in the centre.

4 of uric acid and earthy phosphate.

1 of phosphate mixed with carbonate.

2 of oxalate of lime.

1 of uric acid and phosphate.

3dly, that of the parcels of gravel analysed for M. Amussat, there were—

2 of uric acid.

1 of uric acid, ammonia, and a trace of phosphate of magnesia.

1 of oxalate or earthy phosphate.

4thly, that of sixty-four calculi which we have analysed for different people, from 1828 to 1836, we have found—

52 of uric acid or urate of ammonia.

6 of phosphate of lime.

4 of ammoniaco-magnesian phosphate.

2 of oxalate of lime.

Besides these we have examined other calculi for several practitioners, and we can state that most of them were composed of uric acid*.

XIII. — *Conclusions which may be deduced from the facts exposed in the preceding paragraphs.*

From all that has been stated, it appears to result: 1st, that the action of substances which may act on gravel and stones of the bladder, has not been the subject of sufficiently numerous investigations; and that for the interests of humanity it is requisite that new researches be made and new applications of these means—applications, which from the facts stated by MM. Billeret, Littré, Varandeus, Vignes, Tenon, Bayard, Laizon Nicolas, Springfield, Whytt, Hales, Langrish, Luiscius, Morand, Miss Stephens, Kirkpatrick, Geofroy, Home, Hoffmann, Hatchett, Brande, Fourcroy, Vauquelin, Marcet, Saunders, Mascagni, Hulme, D'Arcet, Robiquet, Magendie, Legalas, C. Petit, &c. &c., may give rise to results of the highest importance.

2dly, that simple water, taken in large quantities or injected, possesses a dissolvent action on gravel and calculi. In fact, M. Magendie says, "that the employment of a large quantity of aqueous liquids, of infusions, decoctions, of mineral waters, has sufficed in many cases to diminish the quantity of gravel, or has promoted its expulsion, and that

* In the collection of Guy's Hospital, the uric acid calculi were in the proportion of 22 to 87: in the Norwich collection, 66 to 181: in that of Manchester, 71 to 187, without including 39 others composed of uric acid and phosphate: in Hunter's collection and that of Sir E. Home, 61 to 150: in the Bristol collection, the number of uric acid calculi was 73 in 218: Prout, who analysed 823 calculi, found that uric acid entered into the composition of 294, viz. 98 of uric acid almost pure, 6 of uric acid mixed with a small quantity of oxalate of lime, 43 of uric acid containing a little phosphate, 113 were composed of oxalate of lime, 3 of cystic oxide, 202 of phosphates, viz. 16 of nearly pure phosphate, 81 of phosphate mixed with a small quantity of uric acid, 3 of ammoniaco-magnesian phosphate, 91 of ammoniaco-magnesian phosphate, combined with phosphate of lime; 186 were alternating, viz. 15 composed of uric acid and oxalate of lime, 10 of oxalate of lime and uric acid, 51 of uric acid and phosphate, 49 of oxalate of lime and phosphate, 12 of oxalate of lime, uric acid, and phosphate, 1 of uric acid, phosphate of ammonia, magnesia, and lime, 2 of oxalate of lime, ammoniaco-magnesian phosphate, and phosphate of lime, and 41, the composition of which is not given.

* Calculi of pure uric acid are excessively rare; almost all the calculi which contain this acid give rise when treated by alkalies to a more or less considerable escape of ammonia.

the beverage should be chosen which, not being indigestible, acts as a diuretic. The experiments of Littre and Billeret corroborate these observations.

3dly, that a great number of mineral waters may be considered adapted to the treatment of calculous affections; but that the action of these waters may be explained in some cases by the quantity of fluid which the patient takes, in others by the agency of the principles which they contain, on gravel and calculi. We would place among the former those waters which do not contain alkaline salts; among the latter, those in which these salts are found.

4thly, that lime water may be employed with advantage in the treatment of gravel and stone; and that its mode of action is explained by the circumstance of the combination of the lime with uric acid forming a very soluble salt, viz. urate of lime; that it is probable lime water would also act on phosphatic calculi, either by depriving them of a portion of the uric acid which they contain, and thus rendering them less dense, by decomposing the ammoniacal salt which enters into the composition of some, or by acting on the animal matter which holds the molecules of these calculi together.

5thly, that the efficacious action of Miss Stephens's remedy appears to be proved in a positive manner by a great number of cases; that the action of this remedy is similar to that of lime and alkaline salts on gravel and calculi, but that the mode of preparation of this remedy, and its prolonged exposition to the air, must occasion a production which does not always possess the same properties nor the same efficacy.

6thly, that the experiments of Home and Brande appear to demonstrate the advantage that may be derived from magnesia, which besides, as stated by M. Magendie, may be taken in any form and almost in any dose—in powder suspended in water—in lozenges, boluses, &c.—from ten grains to an ounce or more within the twenty-four hours.

7thly, that the action of acids diluted with water, on gravel and stone, appears to be demonstrated, but that this kind of medication, which can only produce good effects in the hands of skilful and prudent practitioners, deserves an attentive examination, the results of which we think will lead to the more free use

of these acids, which will one day be ranked among the principal means of combating some kinds of gravel and calculi.

8thly, that the action of pure soda and potass dissolved in water, on gravel and urinary calculi, has been long proved, as may be seen by the observations of Fourcroy, but that from the caustic nature of these substances, the alkaline carbonates, and especially the bi-carbonates, should be preferred to them.

9thly, that the beneficial results obtained from the employment of the carbonates of potass in cases of gravel and stone, cannot be doubted, as they have been demonstrated by the publications of Mascagni, Luiscius, and Hulme, on this subject.

10thly, that the repeated successes obtained with the bi-carbonate of soda, which are not all made public, demonstrate the advantage which may be derived from the rational employment of this medicine, which should be placed foremost among the remedies employed in the treatment of gravel and stone. And to corroborate our assertions, not only the cases which we have collected may be referred to, but also those contained in M. Magendie's work on the gravel.

11thly, that the mineral waters of Vichy appear to us to be the most efficacious means of combating gravel and stone, without the patient being incommoded by the use of the remedy*, in proof of which we quote the observations made on these waters by M. D'Arcet; the conclusive results obtained by M. Petit; the opinions of a great number of practitioners of the highest merit; and the results obtained by the experiments which we made at the springs in 1836.

12th, that the Vichy water, which when drank or used in the form of bath already produces effects which have

* Magendie makes a distinction between these and other mineral waters. He says, "although several mineral waters contain earthy or alkaline carbonates, and may be advantageously employed in gravel, it must be difficult for them to completely saturate the uric acid, on account of the small quantity of carbonate which they contain, so that their most manifest action consists in exciting the secretion of urine. This reflection does not apply to the Vichy water, which contains a large quantity of bicarbonate of soda, and speedily renders the urine alkaline; hence these waters are at present one of the most efficacious means of treating calculous affections, especially red gravel."

been considered inexplicable, on account of the promptitude with which they are obtained, will doubtless give rise to results yet more speedy, when in addition to the drinking and bathing, injections of it shall be made into the bladder by means of M. Cloquet's catheter with the double tube, through which a current of alkaline water may be kept up*.

13th, that the Vichy water is a medicine possessing the requisites required by Fourcroy, and that although containing a large quantity of alkaline salt, it may easily be borne by the mouth, and may even be taken in large quantities.

14th, that although the rapidity with which drinks pass from the stomach into the bladder be very great, so as even to have appeared wonderful, yet we think that the method by injection would be preferable; in corroboration of which we quote the opinion of Fourcroy and Vauquelin, who say, "injection of the bladder is the most certain means of effecting this dissolution: it does not appear likely to be productive of any danger. More active and acrid fluids than are here proposed have been several times injected into the bladder; the urine itself is often more acrid."

15th, that it is probable Vichy water may be useful even after operations, as its use can prevent the formation of gravel in the bladder, as well as the agglutination of its particles, and the consequent formation of calculi.

16th, that it is desirable that trials on the means of effecting the dissolution of stone in the bladder should be made, either on the requisition of a learned body, as the Institute, or on that of government, which should attach to the solution of this important problem a suitable recompense; similar requisitions would soon bring new facts to light, and produce results which could only tend to promote the interests of humanity.

We may observe here, how useful it would be that surgery, which has made so much progress, and given rise to the invention of instruments of the highest utility, should have its attention turned towards the invention of instruments by which a patient might be enabled to

inject a fluid into his bladder several times in the day.

The usefulness of similar instruments may be conceived when it is considered that a calculus, the formation of which may have been more or less long, even extending to some years, may require from the nature of its composition or its hardness, continued injections during a period of time more or less considerable, in order to divide or altogether dissolve it.

It may doubtless be objected that an operation is a much shorter means, and that it would be difficult to find patients who would have the patience requisite to follow up a similar treatment.

To this we answer, that the hope of avoiding an operation, terrible on account of the pain which it occasions, the danger which it entails, and the consequences and relapses to be apprehended, will give many patients the perseverance and patience necessary to follow up a mode of treatment from which nearly certain results may be expected, if we may credit what has been observed up to the present time*.

[To be continued.]

ON IMPERFORATE UTERUS.

To the Editor of the Medical Gazette.

SIR,

I SHALL be obliged by the insertion of the accompanying reply to Mr. North's strictures, published a few weeks ago in your journal, on a case of "Imperforate Uterus," detailed by himself in the fourth number of the *Guy's Hospital Reports*, for April 1837.

I am, sir,

Yours respectfully,

SAMUEL ASHWELL, M.D.
Obstetric Physician and Lecturer to
Guy's Hospital.

If Mr. North's observations, which are evidently the result of a good deal of research, were to pass unnoticed, the authenticity of the case alluded to might perhaps be doubted; and many would

* M. Cloquet states, in a letter dated Nov. 1836, "I have made numerous experiments on alkaline waters, with the double tube catheter, with the object of dissolving calculi, and I observed that almost all these calculi were acted upon more or less by these waters."

* Some practitioners, MM. Velpeau, Legalas, Guersent, &c. propose, in consequence of my communications, to make investigations on the subject of this work.

regard it not as a case of imperforate uterus, but as a marked instance of anterior obliquity of this organ, where the operation of vaginal hysterotomy, as it is called, had been unnecessarily and therefore wantonly performed.

I must, then, occupy a page or two of your journal, to show that the remarks of Mr. North, although valuable in themselves, do not at all invalidate the truth of this individual example of abnormal structure. And first of all, Mr. North is entirely mistaken in the main supposition of his paper—that the possibility of the uterus being anteverted did not occur to us. Mr. Tweedie, Mr. Oldham, and Mr. Roe, urged that there might be anterior obliquity; in fact, it is scarcely to be conceived that so common a suggestion should not have presented itself to our minds.

After much investigation, Mr. North establishes these points—that such cases are very rare, and that errors of diagnosis respecting them are very common. In other words, that most of the reputed instances of imperforate uterus were really nothing more than cases of anterior obliquity; and the names of Baudelocque, Desormaux, Velpeau, Denman, and Dewees, are adduced as holding these opinions. I fully concur in such sentiments, but authorities, however valuable, in determining the probability or improbability of the occurrence of certain events, can never impugn the events themselves, if the evidence on which they rest be genuine and complete. The facts of the present instance of imperforate uterus are few and simple.

A woman, pregnant for the first time, is examined at the commencement of labour, but the os uteri is not found; after *twelve hours* of urgent and powerful parturient pain, another accoucheur, daily in the habit of examining, fails to find an os; and after the continuance of labour pains, with little intermission for *twenty-four hours*, a third practitioner, also in the habit of making these investigations, confirms, without any hesitation, the absence of the normal uterine orifice. This is tolerably good testimony. The examinations were carefully and repeatedly made, and the long-continued efforts, had there been an os, would in all probability have demonstrated its existence; and as probably, had there been anterior obliquity,

these same efforts would have rectified it. It may, too, be stated that during pain the lower portion of the uterus, in the form of a tense and large globular mass, was forced down so low as nearly to reach the entrance of the vagina: so that a finger at all practised in these inquiries must have detected an aperture, had there been any; and in the absence of pain, the vagina being short, its entire upper part was so easily examined that even the slightest fissure or break must have been discovered. But we only found a spot somewhat thinner than the surrounding parts, where the os uteri probably *had* been.

Taking for granted the possibility of the uterus being imperforate at the time of labour, this half of the testimony in its support is sound, and perhaps incontrovertible. The remaining moiety of the evidence is not less genuine, nor less confirmatory. Three weeks after parturition the examination is renewed. The following facts are made out:—The vagina is so short that its upper extremity may be easily reached by the shortest forefinger, and the uterus is perceived to be nearly of its unimpregnated size. A longer delay would not therefore have helped the inquiry.

There is no cervix, nor is there any nipple on one breast; and the only orifice discovered is the one made by incision, and subsequently enlarged by laceration. This aperture is puckered, irregular, and soft, with smooth and thick edges radiating from it; there could be felt three distinct ridges, like lines of adhesion, marking the site of the lacerations. I may be mistaken, but more complete proof cannot, I think, be afforded of any fact not personally known to the individual who doubts it.

I might conclude my remarks at this point, but as the veracity of the case has been impugned, notwithstanding that it occurred in the practice of a large public hospital, and was known to many of the students, I may be permitted to offer one or two observations.

Mr. North must excuse me if I regard the case as entirely dissimilar to “the disgraceful one” related by Dewees, where the cervix and os were discovered after the labour; and as by no means the counterpart or fellow of the one related by Velpeau: both of

which are quoted as pertinent to the one under discussion.

Nor can I suppose Mr. North so unacquainted with the varieties in the structure of the os, as not to know that this aperture is occasionally, though very rarely, exceedingly minute and quite circular; such, in fact, as might easily be obliterated by an amount of local inflammation following conception, which would not interfere (notwithstanding the opinions to the contrary,) either with the pregnancy or the health of the individual.

It is scarcely necessary to allude to the propriety of the operation. I have too high an opinion of Mr. North's practical skill to suppose that he would not have averted by timely incisions the danger of extensive uterine laceration.

Perhaps this paper may be more complete if I point the attention of my readers to several illustrative examples of imperfect or deficient os uteri. In Dr. Gooch's published Lectures, page 188, the following case is narrated:—

“After miscarriage extensive sloughing of the vagina took place, extending to, or rather comprehending also, the os uteri, in place of which there was only a hard contracted circle, as if formed by a cicatrix. This woman was attended in her labour by three surgeons, all of whom agreed in the fact that the os uteri was lost. The labour pains were not sufficient to force the head through this unyielding portion of the passage; the head had descended low into the pelvis, pushing the lower part of the uterus before it. After waiting a considerable time, and the strength of the patient being almost exhausted, it was determined by the professional attendants to cut an os uteri. The patient was taken out of bed, and placed in the position for lithotomy, so that the light fell on the vulva. By dilating as much as possible the external orifice, the cervical portion of the uterus was apparent, as well as the cicatrix in the situation of the os uteri. This part was first punctured with a sharp-pointed bistoury, and an incision of considerable extent was then made with Pott's bistoury. The patient was replaced in bed, the labour pains returned, and the head was forced through the opening, rending it right and left. Some alarming symptoms now occurred; and as the head descend-

ed slowly, it was perforated, and she was speedily delivered. In forty-eight hours after her delivery this woman had no bad symptom: there was a purulent discharge from the vagina for about a fortnight, after which she recovered perfectly, and is now pregnant again. *Many similar cases, which were treated in the same manner, have been recorded; some of them terminated successfully, and others fatally, in consequence of the operation having been too long delayed.*”

The particulars of the next case I received from Mr. Butler, sen., of Woolwich, in 1833, at that time and since engaged in very extensive practice. Fearing, however, lest there might have been any inaccuracy, I obtained, a few days ago, from the sons of Mr. Butler, now occupying their father's place, a full confirmation of the whole narration.

Miss — had considerable abdominal enlargement, principally in the uterine region. She was 19 years of age, and had never menstruated. On examination, the entrance of the vagina was distinct enough, but the hymen was extremely solid, and without the slightest central or other aperture. Ultimately it was necessary to divide the hymen; and the late Mr. Patten, Mr. Butler's partner, cut into it for nearly three inches, in a direction towards the uterus. No catamenial secretion followed this opening; and an eminent surgeon visiting Woolwich the next morning, plunged a trochar still further forwards towards the sacrum, and gave exit to two or three pints of grumous thick menstrual discharge. Mr. Butler was at this time quite confident that the trochar had been plunged into the uterus; but the young lady went on favourably, and subsequently menstruated very well. Some two or three years afterwards she was desirous of being married; and Mr. Butler, on examination, found the vagina pervious as far as the uterus, the orifice of which, made by the trochar, was *patent, yet small*, capable of admitting the tip of the finger, but not possessing the least similarity to the natural and proper os uteri.

Some time afterwards she was married, and in five years she became pregnant. At the period of parturition this artificial aperture did not, because it could not dilate; and to avoid lacer-

ration, which might have proceeded to any extent, Dr. Blegborough advised that the orifice should be enlarged by the knife. Four incisions were therefore made by a probe-pointed bistoury, the head was perforated, and the labour was completed without any uterine laceration. The recovery was difficult and protracted.

In a second labour, occurring within a year and a half of the first, it was found that the artificial os uteri was again too small; but in this instance Mr. John Butler enlarged the opening over the most prominent part of the head, and delivered, without perforation, by the forceps. The child, however, never rallied from the compression it had sustained, and died in two or three days. It is worthy of observation, that in neither of the labours did the artificial os ever dilate beyond the size of a sixpence or shilling, and the uterus was repeatedly pushed externally to the vulva, so that the incisions were made in sight.

This lady has subsequently borne three living children, no further division of the uterus having been required.

CASE OF
COMPOUND DISLOCATION OF
THE ASTRAGALUS;

WITH EXCISION OF THAT BONE.

To the Editor of the Medical Gazette.

SIR,

THE following case is of interest; it illustrates the impossibility, in some cases, of reducing a dislocated astragalus; it shews the difficulties which may be met with in the excision of that bone; and, after the dangers which almost necessarily attend so severe an injury have been finally escaped from, how useful a limb is obtained.

For the drawings, and the description of the injury and operation, I am indebted to Mr. Shaw.—I am, sir,

Your obedient servant,

J. M. ARNOTT.

Middlesex Hospital, July 1837.

Frederick Moore, æt. 22, a brewer's drayman, was received into the Middlesex Hospital, December 26th, 1836, with a compound dislocation of the astragalus of the right foot. In the absence of Mr. Arnott, under whom he was admitted, the immediate charge of the patient devolved upon Mr. Shaw.



FIG. 1.

The accident happened whilst he was adjusting the ropes to lower a beer barrel from the footway of the street into a cellar. In consequence of the slipperiness of the ground he tripped and fell into the cellar, a height of about three yards, alighting upon his feet. The right foot was twisted under him as he fell.

There was an open wound, about three inches and a half in length, on the inside of the foot, a little under the inner malleolus, and extending obliquely from the upper part of the instep, in the direction of the heel. The anterior articulating surface of the head of the astragalus projected nearly an inch through the wound. The surface, also, situated on the inner and lower border, where the astragalus rests on the calceo-scaphoid ligament, was exposed. The head of the bone was projected forwards, and was at the same time inclined inwards, so that its outer surface lodged on the inside of the scaphoides, as represented in fig. 1. The foot was slightly twisted outwards, while its outer edge was inclined somewhat upwards. A part of the articulation of the ankle was brought into view; and on examination it was found that the astragalus preserved its natural position in the head of the tibia. There was a laceration of the capsular ligament in a horizontal direction, exposing the interior of this joint. The posterior tibial artery was seen denuded and pulsating at the posterior angle of the wound; and when the finger was introduced in this situation, to ascertain the nature of the displacement of the bones, the patient suffered great pain, as if from pressing on the posterior tibial nerve. On the anterior part of the malleolus internus, a tendon, which appeared to be that of the tibialis posticus displaced, was seen stretching towards the upper angle of the wound; whilst another tendon, supposed to be that of the flexor longus digitorum, passed directly downwards, across the centre of the wound, and close upon the body of the astragalus, to the sole of the foot. The fibula was found to be fractured close to the ankle-joint.

From the examination it was obvious, in the first place, that the astragalus had burst its connexions with the os scaphoides, by which its head had escaped from the socket formed for its

reception in that bone. It also appeared, from the head of the astragalus being thrown forwards, that its inferior articulating surfaces had shifted their places upon the os calcis; and as the posterior of these, which is the principal one, lies in a slanting direction upon the corresponding surface of the os calcis, as upon an inclined plane, it was supposed that when the head had escaped from its place, this posterior articulating surface had glided down the inclined surface of the os calcis, and lodged in the hollow at its base. The relative situation of the bones will be seen in fig. 2.



FIG. 2.

The portion of skin forming the lower flap of the wound was found to have its edge indented and caught between the projecting part of the astragalus and the inside of the tarsus. Before attempting, therefore, to reduce the bones, this part had to be disengaged, which was done by withdrawing its edge by means of two directories placed under

it. The knee was then bent, and counter-extension made by assistants holding the leg firmly. At first it was attempted to replace the bone by grasping the heel and instep with the hands, then drawing the foot powerfully downwards, and at the same time pressing the astragalus back into its place, by the points of the thumbs. However, notwithstanding all the force that could be employed in this way, no perceptible change was produced in the relations of the bones. A folded towel, previously wetted, was then carried round the outside of the foot, and its ends twisted together on the inside: by this means the foot was grasped very securely; assistants were required to pull upon the foot, while Mr. Shaw endeavoured to guide the astragalus into its place, at the same time raising up the outer edge of the foot, with the view of depressing the inner border of the os calcis, to bring it under the level of the displaced portion of the astragalus. But these attempts proved equally unavailing as the first. It was next thought that a better direction might be obtained for the force, by twisting the towel on the contrary side of the foot, and then drawing upon it; but no advantage was gained by this method. In whatever way the force was applied, the astragalus remained immoveably fixed. As the patient had undergone much severe pain, and as no hopes were now entertained of reducing the bone, and it was thought that to continue the attempts at reduction any longer would only be adding to the severity of the injury already received, it was determined to desist from making any further trials.

Five o'clock, P.M.—A consultation having been held, it was resolved to remove the astragalus by excision, as the most likely means of saving the limb, with the least risk to life.

Operation.—The wound was enlarged by cutting through the portion of integument which had been overlapped by the projecting part of the astragalus.

Various bands of ligament and tense fascia seen passing across from the exposed surface of the astragalus to the adjoining bones, were then divided with the knife. It was necessary to cut through the tendon that was conjectured to belong to the flexor longus digitorum, as it passed over the middle of the astragalus, and embraced it some-

what tightly. A directory was now inserted into the lacerated opening in the capsular ligament of the ankle-joint, with the view of dividing this ligament in the course of its attachment to the astragalus. But it was only possible, owing to the confined space in which the knife could be used, to cut through a small part of the capsule. Towards the dorsum of the foot, the several tendons that pass over the fore part of the joint, and also the anterior tibial artery, had to be avoided, whilst in the direction of the heel, the posterior tibial artery was in danger of being wounded from its closeness to the joint. It was the object of the operator to get the point of the knife within the ankle-joint, that he might cut the capsule from within, keeping close upon the surface of the astragalus. But a difficulty was experienced in separating the one bone from the other, so as to open out the space between the two articulating surfaces. Although the foot was extended, and the projecting end of the astragalus depressed, the edge of the tibia still prevented the interior of the joint being exposed, by overhanging the articulating surface of the astragalus. This was a consequence, as it appeared, in part, of the displacement of the astragalus impeding the free motion of the ankle; but it was also owing to its being the lateral part of the anterior view of the joint, where the inner malleolus begins to descend upon the side of the astragalus, that was exposed in the wound; and here it is naturally a difficult task to insinuate a knife between the bones. It was therefore considered best, instead of endeavouring to extirpate the astragalus entire, to cut it out in pieces. Accordingly, the saw was first applied to the middle of the bone, anterior to its articulating surface with the tibia, and it was divided into two nearly equal parts. It was expected, when this was done, that the portion contained in the joint might now be made to revolve, and the interior of the joint be fully opened; but these attempts proved still unsuccessful. Accordingly another portion of the astragalus, including the external lateral surface which articulates with the fibula, and also a part of that which articulates with the os calcis, was removed by using the strong-bone scissors and the chisel and mallet. As soon as this piece was removed, the portion re-

maining within the ankle-joint, on being grasped by a strong hook applied to its upper surface, was easily turned down. A sufficiently open space was thus obtained for carrying the knife round the borders of the articulating surface: the attachments of the capsular and other ligaments to the bone were then cut from within, and the portion removed without any difficulty.

Scarcely any bleeding took place during the operation; and no vessel had been secured. The leg was laid upon a splint, lying on its outside, with the knee bent. The wound was covered with simple dressing; cold lotions were applied above the ankle. He was ordered a full dose of calomel and jalap.

Ten o'clock P.M.—He does not suffer much pain; the pulse 116, but not full; his skin is hot; he has no headache.

Dec. 27th, one o'clock P.M.—His face is flushed; the skin dry; the tongue white; the pulse quick, but not strong. His medicine has not yet operated. There is some thin discharge from the wound, but there is scarcely any increase of heat, and no tension, and very trifling pain. He was ordered—

Olei Ricini, \mathfrak{z} ss. statim. Continue the cold Lotion.

Nine o'clock P.M.—His bowels have been freely opened. He is easier; the tongue is moist, the skin soft; he has no headache. He complains of some soreness in the wound, and upon examining it, two or three lines, of a dull red colour, indicating inflamed lymphatics, were seen extending midway up the inside of the leg. There was not much tumefaction or heat.

A light poultice was ordered to the wound, and the leg to be fermented.

R Calomel, gr. ii.; Pulv. Antimonialis Co. gr. iii.

In the morning, let him commence the saline draught with antimony.

28th.—He has passed a good night. His pulse is quiet, his tongue moist, his bowels open; he has hoarseness, but he says that he has been long subject to this, and is not worse than usual. The wound has been easier since the application of the poultice; the inflamed lines on the leg have not extended; there is a slight blush of redness above the knee, but it is not painful.

Although not depressed in spirits, he has been expressing his anticipations of a tedious confinement; and upon inquiry, it turns out that when he met

with this last accident, he had just recovered from one nearly equally severe in the other ankle. On looking to the left foot, a piece of roller was wrapped about it, and a scar was discovered beneath, over the inner malleolus. There was a certain displacement of the tarsus; the external malleolus was also irregular in shape, and somewhat thickened, by which it appeared that the fibula had been fractured. The patient mentioned that the bone on the inside of the ankle had stuck out of the wound, but had been replaced. This accident occurred fifteen months ago, and only a month or two had elapsed since he was able to resume his work.

29th.—He slept soundly during the greatest part of the night. The pulse is tranquil; the tongue moist; the bowels have been three times opened. There is neither any considerable heat nor tension about the wound; but in the middle of the leg there is some degree of swelling. The redness above knee has disappeared. He continues to take his pill at night, and a saline mixture with antimony during the day.

30th.—To-day the leg was moved, for the purpose of changing the dressing, without giving him much pain. There is greater redness on the outside than is perceived on the inside of the ankle.

31st.—Mr. Arnott returned to-day. Finding that the pulse was easily compressed, the patient was allowed strong beef-tea.

January 1st, 1837.—Spoke of having some peculiar sensations, which he endeavoured to explain by saying that his "head felt light." It being supposed that these symptoms were owing to weakness, and it being learned that he had been accustomed to drink freely of porter before his accident, a pint of porter was ordered in addition to his beef-tea.

2d.—Free discharge from the wound, which looks cleaner. Fluctuation perceived at the lower part of the leg, over the outer ankle; an opening made, and a considerable quantity of pus of a healthy appearance evacuated. The patient sleeps soundly, and expresses himself comfortable.

15th.—Since last report, case has proceeded most favourably as regards the injured limb. The inflammatory swelling has abated, the discharge continues, but of good quality, and the wound is beginning to heal. From the

aperture made over the outer ankle the matter is lessening in quantity. Two splints have of late been applied; that on the inside, of two pieces (a foot and leg piece) united by strong unyielding iron-wire, so as to leave the space corresponding to the wound exposed, and at the same time allow the toes to be elevated and the foot brought into its proper bearing as regards the leg: upon both of these parts, heads of the many-tailed bandage are previously applied.

From the 3d instant *has had cough, with hoarseness; expectoration at first of transparent, afterwards copiously of yellow mucus; which led to the application of a blister to the throat, and reduction of his diet.

February 6th.—Cough and expectoration have nearly ceased. The foot now rests on the heel, and in maintaining it in this position Nevill's splint to the back of the leg has been found most useful. The wound over the inner ankle is covered with large pale œdematous granulations. There is still discharge from the opening over the seat of the fracture of the fibula. Has now half diet, and a pint and a half of porter.

13th.—The resting-point on the heel has ulcerated; the limb, in consequence, placed again on the side. A collection of matter in the leg above the inner ankle opened, and a considerable quantity of pus discharged.

Without entering into further details of the case, it may be stated briefly that two other collections of matter formed in the foot, and were opened; that early in March he had a severe attack of erysipelas, with inflammation of the lymphatics and great constitutional disturbance; that towards the middle of this month a collection of glairy pus formed in the vicinity of the left trochanter, accompanied with severe pain, was opened, which discharged for some time.

On the 1st of April the original wound over the inner ankle had finally closed, but now and for some time subsequently he was reduced to a state of great emaciation, and his life was in great jeopardy, from extensive sloughing of the soft parts over the sacrum and right trochanter, on which also he had rested, but especially the former, and from which he was rescued chiefly by the good services of the water-bed.

By the end of May the ulcer on the sacrum had healed. In the second week

of June he got out of bed. Since then he has, with the assistance of crutches, begun to use the limb. The proper bearings of the foot to the leg are preserved; the sole of the former comes fairly to the ground; he can now bear some weight on the foot, and the power of doing so increases daily; there is motion at the ankle. Apparently the right foot will prove as useful as the left for the purposes of support and progression.

July 11th.—The patient left the hospital.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

The Works of John Hunter, F.R.S.
 Edited by J. F. PALMER. Vols. II.
 and III.

Two additional volumes of Mr. Palmer's edition of Hunter have appeared since our former notice of this work—the second volume, containing the treatises on the Teeth, and on the Venereal Disease, with notes by Mr. T. Bell and Mr. Babington; and the third, the work on Inflammation and Gun-shot Wounds, with annotations by the Editor. We propose at present briefly to notice the former of these two volumes, and to extend to a somewhat greater length our observations on the latter, which must be considered as Hunter's great work.

Mr. Bell's general acquirements, and his contributions to dental surgery, are so well known, that we should, *à priori*, have named him as the person best fitted for the duty of correcting the errors, and supplying the deficiencies in Hunter's treatise on the Teeth; and the manner in which he has executed his task has given us no reason to change our previous opinion. His notes, though for the most part brief, convey the information required, and will not be the less valued because devoid of that superfluous display of learning in which commentators are too apt to indulge. Though a warm, he is not a blind admirer of Hunter; and, whilst giving him all credit for his important and original researches in this branch of our science, he has not scrupled to point out those mistakes into which Blake, Fox, and Mr. Bell himself, have shewn

that Mr. Hunter fell, in regard to some points, both of the anatomy and pathology of the teeth. We need hardly add, therefore, that Mr. Bell's observations have much increased the value of the original treatise, which, like all of Hunter's works, has come to be considered as a part of the classics of our profession.

With regard to the treatise on Venereal Disease, we believe most surgeons of the present day will be disposed to concur in opinion with Mr. Babington, that though it is full of practical observations of the highest value, and has served as a basis on which our extended knowledge of the diseases of the bladder and urethra has been built, it is, nevertheless, more tainted with important errors, than any other of the works of John Hunter. Notwithstanding these faults, however, and though our acquaintance with many of the diseases here treated of has been greatly increased since the time of Hunter, by the writings of surgeons of the last and present generation, his work, as a general treatise, neither has been nor seems likely soon to be supplanted. Hence a well-executed commentary, from the pen of one combining extensive practical experience with a knowledge of the writings and opinions of others, could not fail to be acceptable to the junior members of our profession generally, and to those amongst the seniors who, from want of leisure or from an unhappy prejudice against reading, choose to confine this within the smallest possible compass. It is, perhaps, a rare complaint to make against a commentator, that he has been too sparing of his notes; it is nevertheless the charge which we feel most disposed to make against Mr. Babington. We are much mistaken if, on looking over the pages of the original, we could not point out many places where he might with advantage have inserted practical remarks into a work so generally valued as a book of reference. Such notes as he has appended, however, are clearly and well written, showing a familiarity with the diseases under consideration, such as we might expect in one who has enjoyed the advantages of a surgeoncy at the Lock. The notes on the treatment of gonorrhœa

and gleet, those on obstinate stricture, on venereal eruptions and venereal sore throat, are of this character, and will be found useful additions to the treatise, of which this must without question be considered as the best edition. One omission we observe, both in this and in the treatise on the Teeth, which we think important: a bibliographical notice of the best works (the modern ones at least) on the teeth, and on syphilis, should have been appended, as has been done in the next part of the work we have to notice, the treatise on Inflammation, &c.

Were we called on to name the surgical work the most difficult to annotate fully and satisfactorily, we should, without hesitation, fix on Hunter's treatise on the Blood, Inflammation, and Gun-shot Wounds, as the one. This difficulty we conceive to arise from various causes: partly from the extent and variety of the subjects embraced—partly from a defective arrangement and incompleteness of the work itself; but in great measure also from a want of correct knowledge on many important parts of the subject, under which we labour even at the present day. Hunter has in this treatise opened up, as it were, a vast mine; in working which, both he and those who succeeded him have already reaped abundant treasure, but no one vein has yet been followed out in its various windings, so as to enable us to judge of its true relation to other parts, nor consequently to reap the benefits which we should have a right to expect from such an extension of the boundaries of our knowledge. Much, nevertheless, has been done in all departments of the inquiry. Many valuable facts have been discovered, much light has been thrown on the physical, the chemical, and the physiological characters of the blood, and the diligent and accurate inquiries of physiologists and pathologists have given us clearer notions on the phenomena of inflammation generally, on the varieties it exhibits in different tissues and organs, and on the modes of treatment which these varieties require. But the materials for a new treatise, embracing the same field as that of Hunter, are not yet prepared, even if the master's hand were here to execute it. Until then it is well

to endeavour from time to time, by means of notes, &c., to fill up the original outline, which, though not without defects, was nobly conceived, and thus to keep alive a valuable work to which the learner may come for instruction, and where he who is competent and willing to push his inquiries into the *terra incognita* beyond us, may see how far others have gone, and in what direction his labours may with most advantage be applied.

Such we conceive to have been Mr. Palmer's intention in the work before us, judging from the length and fulness of the notes in those parts where Hunter's treatise was most defective, or where modern inquirers have pushed their discoveries with most success. In these he has brought together, from various sources, an ample supply of materials, collected, as it appears to us, with much industry and judgment, and generally well arranged. Here and there we think his notes might with advantage have been somewhat more condensed, and in some instances (those, for example, on the chemical history of the blood, and on Hunter's doctrine respecting the life of the blood,) they would have better assumed the form of an appendix to a chapter, or of a separate chapter, with the signature of the editor, as has been done by Dr. Marshall Hall in his edition of Underwood. This method would have allowed of greater freedom, and have rendered the additional matter more readily accessible than when thrown into separate notes, some of which are of sufficient length to occupy several pages. After all, however, this is perhaps rather a question of convenience than any thing importantly affecting the value of a work which, in other respects, appears very creditably executed.

The length to which the principal notes extend, and the consideration that they contain well-digested summaries of our present knowledge, rather than additional facts or novel views, will be our apology for confining ourselves to the mention of some of the most important, rather than attempting to convey a notion of their execution by lengthened quotations. The note (page 18) on the chemical composition of the blood, of which nothing was known in the time of Hunter, gives a summary of the researches of Berzelius, Marcet,

Lecanu, O'Shaughnessy, and Babington, on the nature of this fluid. Those at pages 24, 27, and 30, contain valuable information on the influence of motion and rest, and on the effects of physical and chemical agents on the coagulation of the blood. At page 30, *et seq* the causes of the buffy appearance in blood are considered, and the reasons given for considering coagulation rather as a chemical than a physiological action, in which latter light it was viewed by Hunter. At page 61, we find a note on the microscopic appearances of the blood, which has gone far to make us doubt our own eyes, seeing in how different a form objects have appeared to others from that which they appeared clearly enough to exhibit to us. We suspect, however, that Mr. Palmer is a sceptic respecting the microscope, and has amused himself with raking together all the conflicting opinions he could find respecting the form, size, and structure of the blood-globules. Many other notes of equal value, on the constituent parts of the blood, on the changes effected by respiration, on life in general, and on the life of the blood in particular, will be found in the first hundred and forty pages, which contain the whole of Hunter's remarks on the blood; and to this part, as well as to the subsequent ones, is appended a full bibliographical notice of the best sources of information on the subjects treated of.

The remaining portions of the work, on the vascular system, on inflammation, and on gun-shot wounds, have much fewer notes. We may notice those, however, on the pulse, on the actions of the heart, and on the promimate cause of inflammation, as containing much valuable information in a small compass.

Our notice has already extended, however, to as great a length as our limits will allow, and we will therefore only repeat, in conclusion, that we think the work before us well deserving of a place on the shelves of every member of the profession, and highly creditable to Mr. Palmer, both for the spirit with which he has undertaken the publication, and for the talent he has displayed in the execution of those parts which he has apportioned to himself.

NOTICES OF THE PHARMACOPŒIA.

Two more translations of the Pharmacopœia, in addition to those we have already noticed, lie before us; one by Dr. Castle, the other by Mr. Haselden.

A Translation of the Pharmacopœia Londinensis of 1836; with Descriptive and Explanatory Notes on the Materia Medica, &c. By THOMAS CASTLE, M.D., F.L.S., &c. London, 1837. 32mo. pp. 260.

THIS little work shews industry on the part of Dr. Castle, and seems to be, upon the whole, a pretty fair translation; but it is so very badly printed, as to form a very serious drawback to any merit it may possess. The price, in our humble opinion (five shillings), is too much for such a tiny ill-got-up volume.

A Translation of the Pharmacopœia Collegii Regalis Medicorum Londinensis, 1836. Containing, in addition, the Doses of the several Medicinal Preparations; also a Latin and English Vocabulary of Words frequently occurring in Physicians' prescriptions. By ADOLPHUS FREDERIC HASELDEN. Lond. 1837. 12mo. pp. 93.

MR. HASELDEN'S translation presents in several respects rather a striking contrast to the preceding—being “got up” very neatly. It is remarkably well printed, and is an unpretending but faithful English version of the original. It gives the doses of the medicines, and contains a Latin and English vocabulary, which the student will find very convenient.

We have thus devoted several articles to criticisms of the Pharmacopœia itself, and of the five translations of it which have fallen under our notice, because the work is a national one, and is supposed to be in the hands of every practitioner in England. We have dealt freely with the original, because there are several errors in it which might have been avoided—more especially the numerous typographical blunders—but it would be uncandid in the extreme not to admit that there is much in it which merits the approbation and gratitude of the profession. The Pharmacopœia would certainly have been better received had not a strong feeling of dissatisfaction been excited before its appear-

ance, by the stupid announcement that any one who presumed to translate it should be prosecuted forthwith. We are given to understand, on unquestionable authority, that neither the College of Physicians as a body, nor the Censors' Board, ever did publish or authorize the threat alluded to; all the blame, therefore, which attaches to the College of Physicians, is the dignified folly of not publishing a contradiction of this unauthorized proceeding, and thus taking upon themselves the odium and ridicule of this *brutum fulmen*—as if they had not sins enough of their own to answer for.

With regard to the translations, that of Mr. Phillips is beyond all comparison the best; and those who desire to have the most complete work, will therefore do well to procure it; but students and others, who wish only to have a plain but distinct translation in a compendious form, and at a very moderate price (only 2s.), will find these recommendations in the humbler brochure of Mr. Haselden.

The Medico-Chirurgical Compendium; being a Series of Tables compiled and arranged according to the highest authorities, and the last edition of the Pharmacopœia Londinensis; for the daily reference of General Practitioners, Chemists and Druggists, &c. By GEORGE N. BACHHOFFNER.

IN connexion with the subject of the preceding notices, we think it right to call attention to Mr. Bachhoffner's Medico-Chirurgical Compendium; it consists of a number of very useful tables, ingeniously arranged and pasted on canvas, in the form of a map. The preparations of the new London Pharmacopœia, with their uses and doses, form one of the principal tables; while others contain the new French remedies—the antidotes to different kinds of poisoning—the composition of various animal products—the principal chemical tests, and a great variety of other useful information.

It appears to us that every medical practitioner, in whatever department he may be, would find it very useful to have these tables hung up in his study.

Practische Diagnostik der innern Krankheiten, bearbeitet von Dr. J. F. SOBERNHEIM. 8vo. pp. 438. Berlin, 1837. London; A. Schloss.

DIAGNOSIS is the groundwork of medicine. The most successful practitioners of every age have been pre-eminent for their diagnostic skill; and there is much truth in the adage, "qui bene cognoscit, bene medebitur." Dr. Sobernheim has evidently bestowed great labour and study on the work before us. The characteristic signs of internal diseases are faithfully portrayed. To each section are appended a copious list of authors, and an abstract of the pathological appearances.

Ueber die Ursachen der grossen Sterblichkeit der Kinder des ersten Lebensjahres. Von Dr. LICHTENSTADT. 8vo. pp. 111. St. Petersburg, 1837. London; A. Schloss.

Ueber Lebens - Versicherungs - Anstalten. Von Dr. V. FRORIEP. 8vo. pp. 43. Weimar, 1837.

THE former of these works is a prize-essay. The author treats of the causes, natural and artificial, and of the means of diminishing and counteracting infant mortality. According to his account, twenty-seven children in the hundred die during the first year of their existence, in Russia. We recommend both it and Dr. von Froriep's elaborate observations on life-assurance to the attention of the medical jurist and *statistician*.

MEDICAL GAZETTE.

Saturday, July 15, 1837.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MILITARY FLOGGING.

No one who has ever witnessed a military flogging can think of it without horror; nor can any member of a liberal profession have a more odious duty imposed upon him than falls to the lot of the surgeon on such occasions—namely, to judge how much pain and laceration a human being can bear, without endangering his life. The sub-

ject has been suggested to us by the publication of a recent work, as well as by a Parliamentary Report; and it well deserves the attention of our professional brethren.

Few of our readers, probably, are aware of the fact that the torture was not abolished in the kingdom of Hanover before the year 1822. They will wonder, no doubt, that so frightful a relic of barbarism could have subsisted there to so late a period; while the *laudatores temporis acti* of Hanover, on the other hand, must have been equally scandalized at the revolutionary innovation. "What!" cried the Freiherr von Hagestolz, "shall we give up this wholesome and well-tried institution, this primitive bond of society, to the demands of the silky sons of effeminacy? Shall we, who have so often solved Beccaria's problem, now give it up in unmanly despair*? Do we not bear with becoming fortitude the torments—of our boors? What more would the malignants have? Where will they stop, when they would rob us even of our thumbscrews?"

In like manner, we are informed by General Napier, in his late work on the subject of Military Law and Flogging†, that many able professional men maintain that the diminution of lashes is an increase of evil. Nay, your staunch disciplinarian is not satisfied with mere modern flogging; what he longs for is the good old fashion of flaying alive described in the following passages:—

"I have seen many hundreds of men flogged, and have always observed that when the skin is thoroughly cut up, or flayed off, the great pain subsides. Men are frequently convulsed and screaming during the time they receive from one lash to three hundred lashes, and

* Beccaria's problem is—given the strength of the nerves and muscles of an innocent person, it is required to find the quantity of torture necessary to make him confess himself guilty of a given crime.

† Remarks on Military Law, and the Punishment of Flogging. By Major-General Charles J. Napier. C.B. London; 1837.

then they bear the remainder, even to eight hundred, or a thousand, without a groan; they will often lie as if without life, and the drummers appear to be flogging a lump of dead, raw flesh."—(*Napier*, p. 163).

"Some men are covered with blood from the poll of their necks to their cruppers after twenty lashes; and others will receive three hundred without much blood running below where the lash cuts the skin. Some men take forty, or even fifty lashes, without any blood flowing; but the back appears covered with welts of black bruises. In these cases I have observed that the sufferer generally bears his torments with strong courage; but the danger to life seems greater, for I have frequently remarked that the surgeons soon stop such punishments."—(*Ibid.* p. 150—1).

In the late report upon this subject*, we find many instances of these atrocious doings. Thus—

Lieutenant Thomas Blood gives the case of a man who "was severely punished, so much so that when he got well he appeared to be quite double, and was, I do believe, discharged in consequence, although I think he received but five hundred lashes [BUT FIVE HUNDRED LASHES !!] of a greater number awarded, being tried by a garrison court-martial. It appeared that he was disliked by the buglers, as I heard the observation made by them, that they now had revenge of him, that they cut him well up, for he had been very severe and harsh towards them." (*Report*, p. 253).

The same witness gives the case of two men who, having been sentenced to nine hundred lashes, were offered the alternative of enlisting in a foreign corps; one accepted it, but the other endeavoured to bear the torture. After four hundred lashes, however, he was obliged to give in, and request to be allowed to *volunteer* also.

Major Beauclerk found the flogging system in such high favour at Halifax,

when he first entered the army, that there was scarcely a morning that he was not turned out at six o'clock to witness three or four floggings. While he was in that garrison, there were two or three suicides committed by soldiers to escape flogging. He mentions in particular a grenadier, a very fine young man, who shot himself rather than be punished.

From the same report we learn that when Lieutenant-Colonel Henry Booth first joined his regiment, corporal punishments were frequent, and men were often tied up to receive five, six, or eight hundred lashes. He says that the officers are now more gentlemanly, and the men respect them more, and behave better in consequence. He might have added, as another cause, the force of public opinion, which has been expressed on this point in a tone by no means resembling a whisper, and which has been properly pointed out by General Napier as a cause of the mitigation. This same talking and writing about the matter, however, has not had the good fortune to please every body. Among the displeased is a gallant Colonel, who gives the case of a soldier, who, being half-drunk, struck a sergeant, was sentenced to 200 lashes, and received 150. The thing got into the newspapers, and the gallant Colonel is sure that some of "our own people" put it in, as the transaction took place in a barrack-room, where none but the soldiers could see it. Lord Saltoun, in his battalion of the first regiment, has found out the scribbler; but the Colonel referred to has not been so fortunate.

It is somewhat remarkable that the report contains the evidence of one surgeon, and only one; and he comes merely to apologize for the death of a soldier named Ramsey, who died of tetanus, after having received 134 lashes on the 7th of November, 1835.

* Report from His Majesty's Commissioners for inquiring into the System of Military Punishment in the Army; with Appendices. Presented to both Houses by command of His Majesty. 1836; folio.

Were it not that military floggings are still unjustifiably severe, it would be needless to dwell upon these horrors—to describe the unhappy victim brought out from the hospital three and four times to receive the remainder of his punishment*.

It is said in the report, that in 1832 the award of a regimental court-martial was limited to 200 lashes; and, in 1829, that of a district or garrison court-martial to 300. At page 18, Major Fancourt states that general courts-martial are not limited at all; but General Napier, in the work already quoted, says that even a general court-martial cannot inflict more than 200 lashes. Which of these authorities is right?

The report contains another instance of the way in which punishment was managed in the olden time, so curious, that we cannot refrain from mentioning it. Mr. Hume says that a man was sentenced by a court-martial held at Dinapore, September 12th, 1825, to receive 1900 lashes, on two charges of insolence and insubordination; but the sentence was *mitigated* by Sir Edward Paget to 1250 lashes. This seems very much like sentencing a man to take a drachm of strychnine, and then lowering the dose to forty grains.

The gradual diminution of punishment, as society advances in civilization, is adduced, and indeed is strongly insisted upon, by Colonel Evans in his examination, whatever it may have been in his subsequent practice. He instances the articles of war drawn up for Lord Essex's army in 1642, where a man's tongue was to be bored with a red-hot iron for blasphemy; and death was inflicted for a variety of trifling offences, now more leniently visited.

It would be unpardonable not to men-

tion that the Commissioners, in their report, not only recommend that soldiers should be made more comfortable, and that honorary distinctions and rewards should be bestowed both on the gallant and the well-conducted, but also that the offences to which flogging is limited should be more clearly defined, and that the extent of the sentences in the power of the several descriptions of courts-martial to award, should be less than at present.

General Napier takes for the motto of his work the famous text of Deuteronomy, chap. xxv. 3:—"Forty stripes he may give him, and not exceed: lest, if he should exceed, and beat him above these with many stripes, then thy brother should seem vile unto thee." It may therefore be presumed that the author coincides with the opinion expressed in our former article on this subject, that the limits of the Jewish castigation are admirably adapted for practice. In the Russian service, as we learn from Sir W. Gordon's evidence, the number of lashes is limited to twenty; in the Austrian army fifty blows with a stick are the maximum; in the Prussian service forty are the maximum of lashes that can be inflicted at any one time; but a prisoner may receive one hundred at different times, as the punishment of one offence. Neither in the Austrian nor in the Prussian army are the blows inflicted on the bare back.

These extreme punishments, as formerly (and even as still occasionally)

* It is remarkable that the celebrated Michaelis did not understand the last clause of this verse; he could not see how one number of lashes should make a man despised more than another, and therefore translates the clause, *that the Israelite might not be cruelly beaten*. Every one, however, who has studied the details of this painful subject must see the pointed fitness of the common version. The strong man morally and physically broken down by excess of suffering—the average soldier terrifying and sickening the young recruits with his cries—have obviously sunk in the scale of being. "If the poor sufferer send forth screams of agony, if he faint, he is an object of pity, and perhaps of contempt; 'a poor devil that it is a sin to cut up.'"—(Napier, p. 162.)

inflicted in England, have often been commented on as deteriorating the character of the common soldiers; there is another point of view in which they have been less frequently considered—namely, as debasing that of the officers. A very striking example of this occurs to us. In the year 1801, while General Picton was commandant of the Island of Trinidad, a girl, named Luise Calderon, suspected of being an accomplice in robbing her master, was to be put to the torture. The Alcalde, it seems, had not the power of inflicting it by his own authority, and General Picton consequently signed the following order, drawn up for him by a notary:—

“ *Appliquez la question à Luise Calderon.* ” TH. PICTON.”

The legal questions now arose whether the Spanish law had force in the island when this order was signed, and whether Luise Calderon was fourteen years old; for if under that age she could not be legally tortured, even according to Spanish maxims. This miserable girl found powerful friends, and the Commandant was indicted in the Court of King's Bench, for having unlawfully inflicted the torture.

The trial came on before Lord Ellenborough and a special jury, on the 24th of February, 1806, when the defendant was found guilty. A new trial was afterwards granted, which came on June 11, 1808; on this occasion the jury found “that by the law of Spain torture existed in the Island of Trinidad at the time of the cession to Great Britain, and that no malice existed in the mind of the defendant against Luise Calderon, independent of the illegality of the act.” An argument upon this special verdict was heard on the 10th of February, 1810, when the Court ordered the defendant's recognizance to be respited until they should further order. No

judgment was ever given; but it was thought by the bar that had the opinion of the Court been delivered, sentence would have been given against the defendant.

Picton's biographer, Mr. H. B. Robinson, strains very hard to squeeze out something in justification of the gallant General from these verdicts, but without any success. It is clear that even considering the matter as a purely legal question, the Commandant of Trinidad was to blame; but what shall we say if we consider it as a question of equity and humanity? Mr. Robinson, with a most exquisite irreognition of the merits of the case, wonders that Picton should have been condemned by the public, in spite (as he says) of the judgment of a court of justice and the decision of the Privy Council. He forgets that with the public the point was not how much or how little of the Spanish law was still in force in Trinidad, nor whether Luise Calderon was thirteen or fifteen; but whether Gen. Picton, being in fact dictator in the Island, and having the power of preventing the perpetration of a piece of cruelty, had not sanctioned it. The unquiet state of the Island was made an excuse, forsooth; as if any part of the Trinidad population, black, white, or piebald, would have risen in insurrection had he refused to allow a girl to be tortured. The truth is that even the noble mind of Picton had been hardened by daily witnessing the infliction of torture upon soldiers; and he naturally thought that what was so eminently serviceable—nay, indispensable—among military men, must be laudable when transplanted into civil life. He had touched pitch, and was defiled.

We will discuss, on some future occasion, the various substitutes that have been proposed for flogging, and will conclude the present article with the pithy reply of Private C. D. of the Scots Fusilier Guards; who, to

the question "What effect has corporal punishment upon the men generally?" answers, "In general it makes a middling soldier a very bad one *."

MEDICAL SCHOOLS IN RUSSIA.

THERE are three principal universities in Russia proper, those of Moscow, Harkoff, and St. Petersburg; and each of these universities has a large school of medicine. Those of Moscow and St. Petersburg are the most considerable, but there is still a good school at Harkoff, situated in the southern part of the empire, and destined for the convenience of the natives of the conquered provinces on the Asiatic borders. Each university, which has a faculty of medicine, has also an institute of medicine of the same kind: the students who attend the latter are educated at the expense of government, and are subsequently obliged to serve six years, at least, in the civil or military service. The number of these students is fixed at one hundred for Moscow, and forty for Harkoff. This is, in reality, a kind of medical conscription.

On the present occasion I shall confine my observations to the chief medical school of the empire, that of St. Petersburg.

Although the first rudiments of a medical school in St. Petersburg are to be found in the establishment of the naval hospital, by Peter the Great, in the year 1715, yet the merit of organizing a medical faculty is due to Catherine the Second. In 1764, the Empress founded a medical college, which, with but few alterations from its first institution, is still recognized in the *Medico-Chirurgical Academy of St. Petersburg*. To the jurisdiction of this institution were subjected then, as at present, all the medical institutions, and all medical practitioners, with the exception of court physicians, in the empire. It was originally under the superintendence of a president, eight councillors, and a director general; but, in the year 1788, it was put under the control of a president, four physicians, and a secretary for the foreign department. These individuals appertained to the sixth class of nobility. There was also a head surgeon of the seventh class, an

operating surgeon, a surgeon's assistant, and a superintendent of the seventh class. The Academy formed a board of examination and control. All medical practitioners were subjected to the former, in order to obtain a license to practise, and no other degree, either from Russian or foreign universities, exempted them from this ordeal. The Academy had the power of conferring medical rank, of fixing the rates of medical remuneration, and of assigning to the medical men employed by government their different posts throughout the empire. It exercised the privileges of conferring rewards and punishments, and of regulating the lazarettes and medical schools. It conferred the degree of doctor in medicine; thus assuming or usurping the privilege of an university. In the year 1789, a Russian Pharmacopœia was published by the Academy, which was at that period a supreme medical court.

Such was the institution as it was originally founded by Catherine; and the late *ukass* published in 1835, regarding the same Academy, will prove that but little difference exists in its organization in the present day:—

"The Medico-Chirurgical Academy of St. Petersburg (says this document) enjoys the same privileges as the universities of the empire, and confers degrees in medicine, surgery, and in the veterinary art. It elects corresponding members for the diffusion of knowledge in the distant parts of the empire. It has its own censor, who inspects all manuscripts and publications of the members, and authorizes the translations of foreign medical works into the Russian language."

The Academy, as now constituted, consists of—

1. The president;
2. Two ordinary and two extraordinary professors;
3. Several assistants, viz. demonstrators, operators, manipulators, &c.
4. A general inspector;
5. A councillor, who presides over the supreme court of the Academy, with his secretaries.

The meetings of the Academy are styled "conferences," and are attended by the medical professors only. In case an ordinary professor is prevented from attending, an extraordinary professor is allowed to act as a substitute. No official business can be transacted without the actual attendance of half

* Report, p. 85.

the members. In cases of disagreement among the professors upon subjects of importance, the case is usually referred to the decision of the minister of the interior. The classes are regulated by the conference (*Senatus Academicus*), and the programmes of the different courses are determined by the respective professors. No one can be appointed professor who has not previously obtained the degree of doctor in medicine and surgery, unless some individual of great talent, and who has conferred some signal benefit on the faculty, be, from such circumstances, exempted from the necessity of these qualifications.

Lectures are delivered by the professors in the theatres of the Academy on the following subjects:—

1. Natural philosophy and physics.
2. Natural history; comprising zoology, botany, mineralogy.
3. Chemistry, general and pharmaceutical.
4. Anatomy; combining a general view of comparative anatomy and experimental physiology.
5. Physiology.
6. General pathology.
7. Practical and theoretical pharmacy.
3. *Materia medica*, toxicology, and art of prescribing.
9. General therapeutics.
10. Surgery; including diseases and operations on the eye.
11. Midwifery; including diseases of women and children.
12. Medical jurisprudence.
13. Clinical medicine, surgery, and midwifery.
14. Literature; comprising the history of medicine, criticisms on the ancients, examinations in the Latin language, and dissertations on German and Latin classics.
15. General view of veterinary surgery, and minute description of epizootic diseases.

The lectures are delivered in the Russian and Latin languages, but the clinical lectures must be delivered in the Latin tongue. The lectures are said to be given daily, and are of two hours' duration; but, subtracting all the church holidays and other fête days, not more than three lectures a week can be considered as the average.

With all the advantages which the Academy offers to the medical student, (and, theoretically speaking, it must be allowed to be complete in all its parts),

it is singular how few Russian subjects arrive at the higher honours of their profession; almost all the professors and practitioners of eminence being graduates of foreign universities.

Upon the whole, it may be safely averred that the Russian medical student has every facility afforded him for prosecuting his studies to advantage, and for making himself master of his profession, as far as this can be accomplished by academical education.

The lectures commence on the 1st of September and last till the 1st of July: hence the course is of ten months' duration. The examinations occupy the two months of vacation.

Five years' attendance on the lectures above specified entitle the student to examination for the degree of doctor in medicine. Four years' study are required from the veterinary student; three years from the apothecary.

Russians are examined in the Russian and Latin languages. Foreigners have the choice of Latin, French, or English.

A preparatory classical education is demanded previously to the admission of students to the medical classes.

The medical majority is twenty-four years of age; and the degree of M.D. is not conferred before this period.

There are four degrees of comparison in the St. Petersburg Academy. The first is a degree less than the positive,—goodish, good, better, best. Those who have passed their examinations with great credit are rewarded by medals, and by certificates of merit, signed by the *Senatus Academicus*.

Students guilty of improprieties of conduct are punished at the discretion of the president of the Academy; although a report must be made to the minister of the interior.

Government students—viz. such as are fed, clothed, and educated at government expense,—are compelled to serve gratuitously in different establishments for a certain number of years, regulated by the length of time they have been at the charge of government. Three years' service is demanded for one, five for two, and six for three years' gratuitous education at the expense of government.

The examinations of candidates for degrees is partly oral and partly in writing.

Those classed in the first and second order of students, as regards merit, are promoted to the rank of doctors of the

first and second class, if they have obtained their degree with credit. Those of the third class in merit may, by remaining a year longer in the Academy, be promoted to the second class of doctors after passing their examinations. If they do not aspire to this honour, they may take a degree in the third class of doctors, but are not doctors of medicine, unless, by giving proofs of superior talents in the exercise of their profession, they become entitled to apply for this honour.

Doctors passing an examination entitling them to the first rank, receive medals and honorary diplomas, granted by the *Senatus Academicus*.

The *Senatus Academicus* selects yearly from the student, who have passed their examinations, one or two individuals who are appointed to serve as supernumeraries in some hospital for the space of a year. At the end of this probation they are supplied with funds to enable them to travel abroad, and visit foreign universities, for the completion of their education, and for the purpose of improving their own institutions. These travelling fellows are obliged, upon their return home, to serve for the space of three years in some large hospital, and are then eligible to be elected professors in the Academy.

Students who have not made such progress in their studies as may allow them to take a degree in any of the classes, are distributed among the hospitals, bearing the title of candidates of medicine, for the space of one or more years. During this period they must attend lectures, and act as dressers and assistants to senior officers. Upon receiving certificates of good conduct, and having given sufficient proofs of advancement in their studies, they may subsequently be made doctors of the third class; or, if willing to submit to another course of examination, may be promoted to the second class.

Foreigners, who have studied in other universities, may claim the same privileges as native students, by submitting to different tests and examinations, and may be ranked in the first, second, or third class, as they prove themselves worthy of the respective honours. No honours, degrees, or licenses from foreign universities, exempt strangers from this course of examination. Some few, however, have occasionally been exempted, through imperial favour. Foreigners,

whose sole object consists in possessing a license to practise, generally content themselves with the lowest degree, unless they look forward to professorships or hospital appointments.

As regards the army or navy, there is no particular plan of education; the students receive all the same education.

Upon an average, sixty students graduate annually in the St. Petersburg Academy. Few of these take the degree of doctor in medicine and surgery.

There is a class of practitioners who have received permission to practise, by particular favour, without previous examination; and, as they do not come under any of the academical titles, they receive that of *Practicant*.

Two medical periodicals are published under the authority of the Academy,—the *Military Journal*, which appears at irregular intervals, and the *Weekly Gazette of Health*. Both of these publications are in the Russian language. The profits arising from the sale of the *Military Journal* are devoted to medical characters, and all medical men in government service are obliged to subscribe to it*.

ST. GEORGE'S HOSPITAL.

Necrosis of the Os Innominatum; removal of the Sequestra—Necrosis of the Femur, partly within the Condyles—Compound Fracture of the Leg; Amputation.

MAY 23d, an operation was performed by Mr. Hawkins for the unusual case of necrosis of the innominatum, in a girl of 19, who was admitted into the hospital the beginning of April, with an opening in the lower part of the loins on the left side, into which the probe passes to some extent, and to a depth of two inches or more, some carious bone being felt near the junction of the ilium and sacrum below the spine. The disease commenced a year ago, and an abscess formed two months before her admission: she was weak and inclined to fever. The discharge and pain lessened at first, but the opening required to be enlarged at the beginning of May, and suppuration again increased towards the middle of the month, with irritation of the system from the disease. On the 23d, Mr. Hawkins made an incision from the opening through the glutei muscles, and finding a small opening in the bone through which dead bone could be felt, he removed

* Brit. and For. Med. Rev.

a piece of it with a trephine so as to admit his finger into the cavity within, and with a pair of strong forceps he succeeded in detaching a large piece of bone, about $2\frac{1}{2}$ inches by $1\frac{1}{2}$, which was partly adherent to ligamentous structure within the pelvis. The piece of bone was a flat portion of the ilium, showing its smooth internal surface, and the side where it entered into the sacro-iliac joint, its outer surface being rough where it had been detached from the outer part of the bone which had been opened by the trephine. A large cavity was now felt, in which the finger passed freely, and Mr. Hawkins said it must be in contact with the loose cellular texture behind the rectum, and with the lower part of the iliacus internus muscle.

The operation was followed by a good deal of fever, attended with constant sickness, but without much inflammation of the wound.

On the 30th, Mr. Hawkins removed with the forceps some loose pieces of dead bone, and some more on 3d June, one or two being nearly an inch long, but not of much breadth. The cavity from which they were extracted was nearly as deep as the finger could reach, and Mr. Hawkins said his finger was much resisted by bands of muscle, the iliacus and glutei, which had diminished the size of the opening since it was first made.

Constant sickness and some diarrhœa, with a good deal of fever, followed the last extraction, as it did the first operation, and from these symptoms, with tenderness and some fulness of the inside of the ilium, as felt by deep pressure in front of the abdomen, Mr. H. said he felt some apprehension of suppuration in that situation, especially as the posterior opening was so much lessened by the muscles. These symptoms have now, however, July 12th, much lessened, (the sickness has been most relieved by prussic acid;) she is getting stronger, and the opening is diminishing, and seems tolerably free from spiculæ of bone, several of which have come away with the discharge, and there seems every reason to expect a cure.

May 25th, Mr. Hawkins performed an operation for necrosis of the femur, and an amputation of the leg.

The case of necrosis was one of a young man, for whom he had performed the same operation on the radius, in the middle of April, the wound of which was quite healed, and the new bone is now (June 29) beginning to be absorbed so that it will probably resume its natural size in time.

The opening of the thigh had become much contracted since his admission on April 5th, and at the time of the second operation the new bone left only a small

orifice into its interior, in which was a large cavity leading quite into the knee-joint, as it seemed from its depth, so that Mr. Hawkins said it was not without apprehension of ill consequences from it that he performed the operation. It was thought right, however, on consultation to give him the chance of cure without amputation, as the joint might possibly not be open, or if it was, might be so far altered by disease (as partial ankylosis had already taken place) that the usual effect of opening a joint in operation might be escaped. On the 25th, an incision having been made, three pieces of the new bone were removed with a trephine from its outer side so as to make a free opening into the cavity, out of which many large pieces of the original femur were extracted, not without some difficulty, from their confined situation in the shaft and condyles of the bone. Much foul suppuration took place, as usual in such cases, but very little fever was produced. On the 31st and two following days a good deal of hæmorrhage took place, chiefly as it seemed from a vessel in the upper angle of the wound, the tying which had only a temporary effect in stopping it. In the evening of June 2d, great bleeding came on suddenly, which was stopped by the tourniquet till Mr. Hawkins was sent for, who thought the hæmorrhage was probably kept up by the angles of the wound being tense and inflamed, and so exciting the arteries and preventing their contraction. He accordingly made an incision of about an inch long at the upper and lower ends of the wound, and had the patient placed on Earle's bedstead, and gave him 3 grains of superacetate of lead every three hours, with a quarter of a grain of opium.

From this time no further hæmorrhage has taken place, and the case has gone on extremely well. Mr. Hawkins has removed a piece of dead bone from the condyles, close to the centre of the joint, and no more can be now felt. The new bone around the openings of the trephine has exfoliated and been removed, and the cavity in the interior is rapidly filling up with healthy granulations.

The amputation of the leg was performed for a compound fracture of the leg in a woman between 59 and 69 years of age, who had fallen out of a cart on the previous day. There was at the time of her admission a wound of six inches long in front of the leg, and the tibia, which was broken in two places, was exposed in nearly the whole of this extent; the central piece of the bone was about seven inches long, and was quite loose, its upper end being broken off near the tubercle, and the lower end being denuded all round for 2

inches and sticking out of the muscles, besides the denudation in front almost to the upper end. The woman was quite drunk when admitted, and refused the operation when proposed to her, nor would she consent in the evening, when restored to a state of sobriety.

The next day her pulse was 110, but there was not much heat of skin; the tongue was white and furred, and there was some tension of the limb from effusion of serum, so that an operation, which she now wished for, was not likely to do well; still, however, it was thought right to give her the chance of recovery, and the limb was removed, nearly 24 hours after the injury. The operation was performed just above the upper fracture, the line of incision including the upper angle of the wound, the soft parts being a good deal infiltrated with fluid.

She went on well for several days, the wound nearly healing by the first intention, when it was dressed, which was done early on account of the state of parts at the time of the operation. By the 31st, however, the wound required to be undone, from inflammation of the surface of the stump and a little cellular inflammation around, which has since required incision to a small extent. She began at the same time to be delirious and restless, requiring support, and she has been affected with aphthous ulceration of the mouth and fauces from disturbance of the alimentary canal. This was corrected, however, by hydr. cum creta, with opium, and she was kept from sinking by wine and gin till June 28th, when she finally sunk.

On examination after death nothing was found in a morbid state, except that the branches of the profunda vein were filled with coagula, apparently of some standing, as if from former inflammation; but the chief branches near the stump were quite healthy.

SUCCESSFUL CASE OF LIGATURE OF THE INTERNAL ILIAC ARTERY*.

By DR. MOTT, OF NEW YORK.

History.—Richard Charlton, the patient, is a coloured man, born in this city, and about 38 years of age. He has worked in a grocery store. He first felt the symptoms of his disease in the summer season of 1832. During the cholera then prevalent he had a diarrhœa, and while making

frequent straining at stool, perceived a swelling and pulsation in the right buttock, which has gradually increased until this time. It is now about the size of a goose's egg, and contained only fluid blood.

On the 29th December, 1834, at noon, I proceeded to tie the right internal iliac artery, in the presence of Drs. I. Kearney Rodgers and A. E. Hosack, and assisted by Drs. Vaché and Wilkes. The incision, which was fully five inches long, extended from a spot on a line with the umbilicus, about midway between the linea alba and the anterior superior spinous process of the ilium, to within half an inch of Poupart's ligament, and then curved forward an inch over the course of the spermatic cord. The operation lasted about forty-five minutes, owing to the almost irresistible intractability and frantic restlessness of the patient. His great straining and jactitation caused me to make a small opening in the peritoneum, whilst separating it from the iliacus internus muscle. The peritoneum and intestines being drawn up and supported by a large curved spatula, the internal iliac artery was readily seen, crossed by the ureter, which was easily pushed aside. The filamentous tissue was quickly separated by the fingers from about the vessel, and the ligature conveyed under it by the American needle. At the moment of tightening the knot the hand was applied to the tumor, in which all pulsation immediately ceased, and which itself almost entirely disappeared directly after. The patient, being put to bed, took twenty drops of a solution of morphine, and in the evening was easy.

Dec. 30th.—Had a good night's rest, and was comfortable in the morning. Some excitement coming on early in the afternoon, he was bled from the arm to about $\frac{3}{4}$ viij., and took a solution of sulph. magnes. in divided doses.

Evening.—Much easier; salts had not operated. Directed an enema, and applied a strip of blister plaster around the wound.

31st.—Has had a good night; is doing well; is free from pain, and the pulse is tranquil; enema operated several times, and the plaster drew well. In the evening he was still better than in the morning.

January 1st, 1835.—Feels much more easy than he did yesterday, and can move better—the abdomen is less tumid. Pulse not more frequent, but rather quicker than it was yesterday. Since the enema was administered has had frequent teasing stools. Ordered enema ex. opio. c. amylo. Cold water and barley tea for drink.

2d.—Anodyne enema quieted the bowels. Pulse, though still frequent, soft and com-

* Amer. Journ. of Med. Sciences, May 1837.

pressible; tension and tenderness of abdomen gone.

3d.—Freedom from tenderness continues; pulse nearly natural. Reapplied the blister, and allowed panada and arrow-root.

4th.—Much depressed by the intense cold of to-day, (10° below 0 of Fahr.)

5th.—Pulse natural; tongue nearly clean; is cheerful and hungry.

7th.—No unpleasant symptom whatever.

9th.—Removed the sutures from the wound, which is very much closed. Is free from pain; pulse natural, and bowels regular.

The report of the case terminates here; and owing to the absence of Dr. A. E. Hosack, upon whom the care of the patient devolved, I am only enabled further to state that the ligature came away on the 42d day.

Nov. 26, 1836.

COLLEGE OF SURGEONS.

RECENT ORDINANCE.

To the Editor of the Medical Gazette.

SIR,

THE College of Surgeons have latterly issued an ordinance, that all teachers of anatomy and surgery must undergo a second and special examination, to entitle them to the privilege of having their certificates recognized. The original term of the rule was *lecturers*, but it has been since changed to *teachers*, and thus may apply to surgeons of hospitals, who are supposed to be teachers of surgery to the pupils. This rule has been sent to the metropolitan hospitals, with a view to induce the Governors to demand as a qualification, that all candidates for the office of surgeon shall have to undergo this second examination, and rendering all others ineligible. Now, in the first place, it is surely a very questionable mode of law-making, to strain the meaning of a rule from the original intention of its framers, by the implication that the word teachers can mean hospital surgeons; if such a law is proper, why not promulgate it in plain terms. As applied to lecturers, it is a just and proper law, because no man should think of lecturing without that study of minute anatomy which will qualify him for this examination. As applied to all who may offer themselves as candidates for the office of surgeon to an hospital, it appears unjust, being retrospective, and carrying with it a sort of admission that the College examination has hitherto been

imperfect and the diploma of no value; although heretofore considered a sufficient qualification, stating that "A. B. has been deliberately examined, and found to be fit and capable to exercise the art and science of surgery; and we authorize him to practise the said art and science accordingly." We, the Examiners, think him fit to practise surgery every where but in a hospital. Why should not the new law apply equally to dispensaries, jails, work-houses, &c.? Surely it would be very unjust to the members of the College generally, if they are to be prevented from holding any appointment without going to school again. Will not this new rule render the diploma no better than waste paper? Is it fair at this time of day to introduce a new distinction, which will lower the old members in public estimation? Is it wise on the part of the Council to diminish the value of their diploma? If the fixed income of the College, from funded or other property, is not large, the experiment appears a very dangerous one. The effect must be to diminish the number of applicants for the ordinary diploma, which will not be of as much value as the license of the Apothecaries' Company, to say nothing of the New University. In a year or two very few will go to the College, unless they mean also to obtain the higher honour, and that cannot be had before the age of twenty-five; no country practitioners will wait for it, and the members of the College will be limited almost to those who practise surgery only. Where the College receives a hundred fees for diplomas, with this new rule it will not receive ten. Can the establishment be kept up should such a defalcation in its revenue take place? The Council of the College has of late years, by the establishment of a library, lectures, &c. done much to merit public approbation; and it would be lamentable that any step should be adopted, that might now injure its utility.

I have troubled you with these cursory observations in the hope that your attention, and that of the medical public, being called to the subject, this new law may be fairly discussed before it is finally adopted.

I am, sir,

Your obedient servant,

July 12, 1837.

[We have given insertion to the preceding letter on account of the importance of the subject to which it refers; but we cannot help thinking that the writer is combating a phantom of his own creation. The terms of the ordinance distinctly limit its application to those who apply to the College to be recognized as teachers of

anatomy, or of surgery; and we do not see how hospital surgeons could be brought under its operation, even if the Council were so inclined. The choice of the surgeons of any hospital is entirely in the hands of its Governors, who, as the Council must be sensible, would immediately resent any interference with their functions.—ED. GAZ.]

NEWTON MEDICAL AND SURGICAL ASSOCIATION.

FOURTH BRANCH ASSOCIATION.

ON Friday, the 30th ult., a numerous and highly respectable meeting of the medical profession, from Liverpool, Manchester, Warrington, and other places, was held at the Legh Arms, Newton, for the purpose of establishing an Association in alliance with the Provincial Medical and Surgical Association. Among those present on the occasion may be mentioned Dr. Jeffreys, Dr. Baird, Dr. Macrorie, Dr. Scott, Dr. Carson, jun., Dr. Bryce, Dr. Mackenzie, Mr. Forshaw, Mr. M'Culloch, Mr. Batty, Mr. Eden, Mr. Marshall, Mr. Bevan, Mr. Cheesebrough, and Mr. Currie, of Liverpool; Dr. Holme, Dr. Lyon, Dr. Marshall, Mr. Ainsworth, Mr. Thorpe, Mr. Turner, Mr. Jordan, and Mr. Mann, of Manchester; Mr. Goodlad, of Bury; Mr. Moore, Mr. Wolstanholme, and Mr. Robinson, of Bolton; Mr. Gaskell, Mr. Garton, and Mr. Blundell, of St. Helen's; Dr. Kendrick, Dr. Churton, Mr. Sharp, Mr. Hardy, and Mr. Robinson, of Warrington; Mr. Grundy, of Lymn; Mr. Wilson, of Runcorn; Mr. Dicken, of Middleton; Mr. Mather, of Ashton-in-the-Willows; Mr. Pinnington, of Ashton-in-Mackerfield; Mr. Johnson, of Middlewich, &c.

Dr. Holme, who presided at the meeting of the Provincial Association at Manchester last July, was called to the chair. He explained the objects of the meeting, and pointed out, in terms of warm commendation, the advantages resulting from associations like the one they were met to establish. The necessary rules and regulations were adopted; and it was ultimately agreed that as Newton occupies a more central situation, and affords greater facilities of access than most other parts of Lancashire, it should be called "*The Newton Medical and Surgical Association.*" Local committees were likewise appointed in Liverpool, Manchester, and Warrington, to unite themselves into a council, which is to meet annually at Newton. The acting secretaries are John Sharp, Esq. and G. W. Hardy, Esq.

At the conclusion of the meeting, upwards of forty members sat down to a dinner provided for the occasion, when various toasts connected with the profession were given, which elicited some admirable speeches from Dr. Holme, Dr. Jeffreys, &c.

A NEW METHOD OF CALCULATING THE STIPENDS OF MEDICAL OFFICERS

UNDER THE NEW POOR-LAW.

By BEW LUPTON, Esq.

[Communicated by Mr. Rumsey.]

I HAVE only to observe that, after having been nearly twenty years in practice in a district the population of which is employed partly in agriculture, and partly in the cotton and silk manufactures, my knowledge of parish practice is chiefly theoretical, having always declined farming the townships, or having any thing to do with the system of tenders.

It has always been my rule to charge the township, in the cases where I have been employed, half the sum for medicine and attendance that I should have done to a respectable farmer or shop-keeper, but I have not been unobservant of what has been going on around me during the above-mentioned period.

If I should propose any thing, it would be that as the poor-rate is for the benefit of the poor *only* (and it is, I believe, now illegal to pay any sum out of it which is not strictly for their maintenance), that a certain per centage of the rate collected should be allowed for medical and surgical attendance, and a similar per centage for medicines, &c. for the paupers; or if the township or district prefer finding medicines, they should be at liberty to do so.

The amount of per centage on the rate in each case, I do not consider myself competent to determine, as it must in some measure depend on the density or thinness of the population; but I think the system will be a protection to the medical men against the loss which they would otherwise suffer, in epidemics, which cannot be foreseen or guarded against in any other way that I am aware of.

And further, to prevent any bickering amongst the profession, I should propose that each medical man should have a claim to the practice (if he choose to apply for it), in rotation, according to seniority of residence in the township or district.

Cheadle, near Manchester,
Nov. 1, 1836.

Further details of the preceding plan, by a member of the Provincial Association.

No alteration, however advantageous it may appear, will, I believe, materially benefit the situation of the medical profession in reference to pauper practice; notwithstanding, there does appear to me a way in which the respectability of the profession may be somewhat better secured than in the plan now pursued.

1st. The person elected as medical officer of the union, or the district of the union, should not be removeable so long as the duties are efficiently and regularly performed by *himself*.

The present mode of election by the guardians I take to be the least objectionable; reasons equally strong as those already noticed may be urged against increasing the number of electors.

2dly. The remuneration should bear a given proportion to the sum annually raised for the relief of the poor; this proportion to increase or vary according to the extent of the union, or the district of such union. If pauperism decreases, the duties decrease, and salary also, and *vice versa*; *e. g.*

Suppose, then, that in one district of the union the whole amount raised in the preceding year be 3500*l.*, and the distance be no greater than three miles in one direction, and one mile in another direction, and 7-8ths of the population be where the medical officer resides, then say that 2½ per cent. upon the above sum be allowed (exclusive of drugs*), for attendance on the paupers of the district.

Item.—Suppose in another (rural) district the whole amount raised in the preceding year for the relief of the poor be 3500*l.*, and the distances be from one to six miles from the residence of the medical officer, and that 3-4ths of the population be in villages at the *greater* distances, and within a mile of each other, and where no opportunity offers to obtain drugs, then say that 3 per cent. upon the above sum be allowed for the district.

And in unions, or districts of unions, where less than 1000*l.* has been raised in the preceding year for the relief of the poor, then I would say that 5 per cent. be allowed for attendance on the paupers of such union or district. In all cases of fracture requiring several attendances during the progress of recovery, a fee of 1*l.* should be allowed. If any of the great operations of surgery be performed by the medical officer, double that amount, the moiety of which should be given to any medical practitioner who may be selected by the medical officer to attend on that

occasion. In the population of such districts as these, there would be enough midwifery practice (exclusive of paupers); I therefore propose that females, *properly instructed*, attend the paupers, and in case of difficulty the medical officer should have 1*l.* for his attendance.

These extra cases would not frequently occur, and the amount in fees to the parishes would be insignificant, but to the medical man it would be the usual and common consideration; they should be paid at the time by the overseers of the parishes in which such cases occur.

Although I name these extras, I would sooner include them in the annual stipend, *if the per centage were raised*; the agreement would be more simplified and more approved.

An annual stipend thus secured would, in my opinion, be more satisfactory than the appearance of a lengthened detail of extras. I feel certain it is to the advantage of the profession to avoid bills in pauper practice.

I do not dwell much upon the examples I have adduced; it is *the mode of appointment*, and *the fixing of the remuneration*, which appear to me as principles which, if established, will at once recognize the independence and respectability of the professional men so engaged.

Hinckley, Oct. 22, 1836.

Note.

Whatever may be thought of the mode of computing the stipends of medical officers here recommended, it is quite evident that the *amount* of per centage proposed, viz. from 2½ per cent. to 5 per cent. is infinitely too low for any decent remuneration; it *should not be less than from 5 to 10 per cent.*

H. W. R.

SICK POOR—NOTICE OF MEETING.

To the Editor of the Medical Gazette.

SIR,

WILL you have the goodness to announce to your numerous readers, that previously to the meeting of the Provincial Medical and Surgical Association, a meeting of those gentlemen who take an interest in the subject of medical relief for the sick poor will be held in the Poor-law Committee room.

In order that sufficient time may be allowed for discussion, it is proposed that the meeting commence precisely at eight o'clock on the evening of Tuesday the

* I doubt the practicability of separating the cost of drugs.

18th instant, and that, on its rising, it do adjourn till eleven o'clock on the following morning.

The proceedings of this preliminary meeting will be laid before the Council on Wednesday afternoon, when a plan will be determined on to propose to the general meeting of members.

At the present important crisis a full attendance of such as are concerned in the matter is particularly requested.

I remain, sir,
Your obedient servant,
H. W. RUMSEY.

Chesham, July 10, 1837.

PREPARATION OF PHLORIDZINE.

SOME account of this substance, which is said to possess many of the properties of quinine, was given in vol. xvii. p. 959, of this journal. The following mode of preparing it is recommended by M. Boullier, in the *Journal de Chimie Médicale*.

Place in a copper vessel the bark of roots of apple trees, freshly dug up, and pour in enough of distilled water to cover the bark entirely. Boil for four hours, always replacing the water which escapes by evaporation. After four hours, pour off the liquid, and then add a fresh quantity of water to the residue equal to the first, and boil it again, but only for one hour, and then pour off. The two products, when kept at rest for thirty hours, will deposit a great quantity of phloridzine, resembling dark velvet. Collect the phloridzine, and add to it an equal quantity of animal carbon: boil the two in a little water, and filter. This process must be repeated three times, and when the liquid is made to cool gradually, a beautiful crystallization of the phloridzine takes place. M. B. has been unable to discover this substance in the bark of the root of cherry trees.

Phloridzine is very light, of a white colour, with a slightly bitter, but not at all astringent taste. It gives no reaction with test paper. It is scarcely at all soluble in cold water, but much more so in hot alcohol, which at its common temperature dissolves half its own weight of it. Being treated with half its weight of nitric acid, to which water was added, after an hour of boiling the liquid assumed a red colour, and no traces of phloridzine could any longer be detected.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, July 6, 1837.

John Turner, Swansea.—Thomas Inman Welch, Wells, Somerset.—John Dickason Hewett, Hil-

ton, Hants.—Joseph Whitaker Stapleton, Trowbridge, Wilts.—William Bush, Beach Bitton, Gloucestershire.—Oscar Moore Passy Clayton, London.—William Jenner, Rochester.—William Smith, Manchester.—Henry Bidwell, Albrighton, Shropshire.—William Clegg, Hull.—David John Thomas, Llangadock.—Edw. Scholfield, Ashton-under-Lyne.

Thursday, July 13, 1837.

William Hillyard, Warwickshire.—Frederick Cox, Barham, Kent.—Thomas Herbert Barker, Redbourne, Herts.—Alfred Bower, Billericay, Essex.—James Maximilian Cornwall, Tunbridge Wells.—Charles Cowdell, Hinckley, Leicestershire.—Thomas Napper, Leigh, Sussex.

WEEKLY ACCOUNT OF BURIALS,
From BILLS OF MORTALITY, July 11, 1837.

Abscess	1	Fever, Typhus	2
Age and Debility	22	Heart, diseased	1
Apoplexy	5	Hooping Cough	7
Asthma	6	Inflammation	28
Cancer	1	Brain	1
Childbirth	1	Lungs and Pleura	3
Consumption	34	Liver, diseased	3
Convulsions	16	Measles	10
Dentition or Teething	4	Mortification	4
Dropsy	9	Paralysis	2
Dropsy in the Brain	7	Small-pox	3
Dropsy in the Chest	2	Thrush	1
Epilepsy	1	Unknown Causes	30
Fever	17		
Fever, Scarlet	3	Casualties	3

Decrease of Burials, as compared with }
the preceding week } 23

METEOROLOGICAL JOURNAL.
Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

June.	THERMOMETER.		BAROMETER.	
Thursday . 29	from 32 to 77		30·07 to 30·03	
Friday . . 30	48	75-	30·03	30 17
July.				
Saturday . 1	35	67	30·24	Stat.
Sunday . . 2	30	75	30·22	30·17
Monday . . 3	36	75	30·16	30·08
Tuesday . . 4	41	74	30·07	Stat.
Wednesday 5	40	74	30·09	30·05

Winds very variable; N.E. prevailing.
Generally clear; except the afternoon of the 5th, when a little rain fell.

Thursday . 6	from 49 to 74		30·05 to 30·09	
Friday . . 7	42	73	30·13	Stat.
Saturday . 8	45	79	30·10	30 08
Sunday . . 9	37	66	30·08	30·00
Monday . . 10	35	74	29·93	29 89
Tuesday . 11	37	73	29·90	Stat.
Wednesday 12	46	65	29·90	29 85

Wind, N.E.
Except the mornings of the 6th, 7th, and 12th, generally clear. A little rain on the morning of the 7th.

CHARLES HENRY ADAMS.

ERRATUM.

In Mr. Meade's paper, in our last number, for "uniting medicine," read "uniting medium."

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, JULY 22, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMA-
COLOGY, AND GENERAL
THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXVII.

LABIATÆ, OR LAMIACEÆ.

Labiæ plants, considered with reference both to structure and properties (chemical and medicinal), form, perhaps, the most natural family of the whole vegetable kingdom.

They are distinguished from other plants by being monopetalous dicotyledons, having irregular unsymmetrical flowers, two or four stamina, a superior four-lobed ovary with a solitary style, opposite exstipulate leaves, and four-cornered stems.

The form of the corolla is such that it has been compared to the gaping mouth of an animal, the two principal divisions being called the lips: hence the origin of the term *labiate*, or more properly *bilabiate*, applied to these flowers.



FIG. 190.—*Labiæ Flower.*

503.—xx.

The greater number of these plants have four stamina—two long, and two short; and are, in consequence, placed by the Linneanists in class *Didynamia*, order *Gymnospermia*. They are, however, not really naked seeded; the term gymnospermous being applied in consequence of the four-lobed ovary having been mistaken for four seeds. As examples of didynamous labiate plants, I may mention the genera *Mentha*, *Lavendula*, *Origanum*, and *Marrubium*.

Some labiate plants have only two stamina, which correspond to the shorter stamina of the didynamous Labiæ: these are placed by the Linneanists in class *Diandria*, order *Monogynia*. Thus *Rosmarinus* and *Salvia* may be quoted as examples of diandrous labiæ.

The medicinal activity of the plants of this family depends on volatile oil, bitter extractive, and astringent matter.

The volatile oil resides in small receptacles (by some called *globular glands*) contained in the leaves. "These glands," say Nees von Esenbeck and Ebermaier, "are placed quite superficially, or rather in depressed points, and are commonly of a shining yellow colour. We may regard them as oleo-resinous matter separated from glands lying on the under surface. When macerated in strong spirit of wine, they remain unchanged, and appear under the microscope as transparent, probably cellular, vesicles, filled with a yellow granular matter." The oils of labiate plants, like other volatile oils, consist of *eleoptene* and *stearoptene*: it is the latter substance which is described by some chemists as camphor.

The bitter extractive is found in greater or less quantities in all the Labiæ. It is this principle which communicates the bitterness to the watery infusions of these plants.

The presence of astringent matter (tannic acid) is shewn by the green colours pro-

duced when a ferruginous salt is added to the infusion of some of the Labiatae.

The volatile oil gives to these plants aromatic, carminative, and slightly stimulant properties. The bitter extractive renders them tonic and stomachic. The astringent matter is usually in too small a quantity to communicate much medicinal activity, though it must contribute to the tonic operation.

The perfumer uses some labiate plants on account of their fragrant odour; the cook employs others for their flavour and condimentary properties; the medical practitioner administers them to relieve nausea and colicky pains, to expel wind, to cover the taste of nauseous medicines, and to prevent the griping of others.

Mentha viridis.

History.—Hippocrates employed in medicine a plant which he terms *Μίνθη*; but it is uncertain what particular species was referred to. On account of its agreeable odour it was also called *ἡδύσμον* (from *ἡδύς*, *sweet*; and *ὄσμη*, *smell*), a name by which Dioscorides designates it. Strabo tells us that *Minthe* was a concubine of Pluto, and that she was changed by Proserpine into a plant, which was called after her. Ovid (in his *Metamph.* lib. x. ver. 729) also alludes to this supposed occurrence.

Botany.—Spearmint is a well-known indigenous plant growing in marshy places, in various parts of this country, and belonging to class *Didynamia*, order *Gymnospermia*, of the Linnean arrangement. It is distinguished from other species of *Mentha* by its lanceolate, acute, glabrous, serrated, sessile leaves, interrupted spikes, setaceous bracteas, which, as well as the calyx, are somewhat hairy, and its glabrous pedicles. It is extensively cultivated for culinary and medicinal purposes in various parts of the country.



FIG. 191.—(a.) *Mentha piperita*. (b.) *Mentha Pulegium*. (c.) *Mentha viridis*.

Officinal.—The whole herb (*herba Menthae viridis*) is employed in medicine. It has a strong but peculiar odour, and an aromatic bitter taste, followed by a sense of coldness when air is drawn into the mouth.

Composition.—Its odour and aromatic qualities depend on a *volatile oil*, which may be obtained from it by distillation. It also contains *astringent matter*, as is shown by the green colour produced by the addition of a ferruginous salt to the cold watery infusion of mint.

Oil of spearmint is of a pale yellowish colour, becoming reddish by age. It has the odour and taste of the plant, and is lighter than water.

Physiological effects.—The effects of mint are similar to those of the other labiate plants; that is, it is aromatic and carminative. It has been supposed, though without sufficient foundation, to diminish the secretion of milk, and to possess emmenagogue properties. In proof of the latter quality, Linnæus tells us that a woman, from the frequent use of it, became subject to uterine hæmorrhage.

Uses.—The uses of mint as a salad and sweet herb are well known. In medicine we employ it as a flavouring ingredient, and also to alleviate or prevent colicky pains.

Administration.—In the Dublin Pharmacopœia there is a formula for the preparation of a *compound infusion of spearmint*. It is an infusion of the herb, to which sugar, oil of mint, and compound tincture of cardamoms, are added. It is a pleasant stomachic and slightly stimulating preparation, well adapted for a vehicle to cover the taste of disagreeable medicines. The *oil of spearmint* may be administered as a carminative and stimulant, in doses of from two to five drops rubbed with sugar and a little water. The *spirit of spearmint* of the Pharmacopœia may be given in doses of half a drachm or a drachm. It is ordered to be prepared by distilling the oil with proof spirit; but the distillation is unnecessary, and hence chemists usually prepare this compound by dissolving two drops of the oil in an ounce of proof spirit. The *essence of spearmint* of the shops is prepared by dissolving one fluid drachm of the oil in a fluid ounce of rectified spirit of wine: the dose is from 10 to 20 drops. *Spearmint water* is the most commonly employed preparation: its dose is two or three ounces. It is, however, more frequently used as a vehicle for the exhibition of unpleasant-tasting medicines than for other purposes. Although ordered in the Pharmacopœia to be prepared by distillation, yet it is usually made extemporaneously by dissolving or suspending sixteen drops of the oil in a pint of distilled water, by means of a drachm of spirit and

a lump of sugar. Some persons employ magnesia to clear it; but the practice is objectionable, since the water thereby acquires alkaline properties, and is unfitted for certain uses, as for being a solvent for the bichloride of mercury, &c.

Mentha piperita.

This plant was probably introduced into medicine in the last century; at least Hill, in 1751, says that it "has lately got into great esteem;" and Geiger says it was introduced in Germany as a medicine, through the recommendations of the English, in the latter half of the last century. It is particularly deserving of notice, that the *Mentha piperita* of the Linnean herbarium was found by Sir J. E. Smith to be a variety of *M. hirsuta*, which has a similar odour to, and in the north of Europe supplies the place of, *M. piperita*. It is a well-known indigenous plant, extensively cultivated at Mitcham and other parts of this country, and is distinguished from other species of *Mentha* by its ovato-lanceolate, strongly serrated, acute, slightly hairy-stalked leaves, its interrupted spikes, its lanceolate bracteas, and its glandular calyx, which is quite smooth at the base. (Fig. 191, a.)

The whole herb is officinal (*herba Menthæ piperitæ, seu piperitis, piperatæ*). It has a peculiar aromatic odour, and a warm, burning, bitter taste, followed by a sensation of coolness when air is drawn into the mouth.

The most important constituent of the plant is *volatile oil*, which is readily procured by distillation. I am informed that 20 mats of the herb (each mat containing about one hundred weight) yield about 7lbs. of oil. The presence of *astringent matter* in the plant is shown by the green colour produced by the addition of a ferruginous salt to a cold watery infusion.

Oil of peppermint is lighter than water, colourless, or nearly so, sometimes having a pale yellow or greenish tint, and becoming reddish by age. It has a penetrating odour like that of the plant, and a burning aromatic taste, followed by a sensation of cold. The vapour of it applied to the eye causes a feeling of coolness. According to Göbel this oil consists of—

Carbon.....	75.1
Hydrogen	13.4
Oxygen	11.5
	—
	100.0

Peppermint is an aromatic stimulant, and the most pleasant of all the mints. It is employed in medicine for several purposes, but principally to expel flatus, to cover the unpleasant taste of other medicines, and to relieve nausea and griping pains of the alimentary canal.

The herb itself is rarely employed in medicine, though an *infusion* (known as *peppermint-tea*) is a popular remedy to expel wind. The *volatile oil* (*oleum menthæ piperitæ*) is sometimes taken as an antispasmodic, in doses of from one to four or five drops on sugar, rubbed up with a little water. A very popular preparation is the *essence*, prepared by dissolving one part of the essential oil in eight parts of rectified spirit: some add mint or spinach leaves, to communicate a green colour. This preparation is given to the extent of twenty or thirty drops. The *spirit*, prepared by distilling the oil and proof spirit of wine together, has no advantage over the essence just described, but is much weaker. It may be prepared in the same way as the spirit of mint; its dose is half a drachm or a drachm. *Peppermint water* is one of the most commonly employed preparations: the dose is one or two ounces; it is prepared like mint water, before described. I need hardly remind you of the extensive use made of the oil of peppermint, in flavouring what are called *peppermint lozenges*, and some other articles of confectionery. A *liqueur* is sold at the spirit shops which is flavoured with this oil.

Mentha Pulegium.

History.—This plant was employed in medicine by the ancient Greeks and Romans. It is the *Γλήχων* of Hippocrates and Dioscorides, and the *Pulegium* of Pliny.

Botany.—It is an indigenous plant, growing on wet commons and at the margins of brooks. It is characterized by its prostrate stems; its small ovate, downy, obtuse, subcrenate, frequently recurved leaves; its whorled flowers, with pubescent peduncles, and a calyx with five fringed teeth. (Fig. 191, b.)

Officinal.—We employ the herb with the flowers (*herba seu summitates Pulegii*). It has a strong peculiar odour; a hot, aromatic, bitter taste, followed by a sense of coolness in the mouth.

Chemistry.—The most important constituents of the plant are *volatile oil* and *astringent matter*. The first is obtained by distilling the plant with water. The presence of astringent matter is shown by the dark-green colour produced by the addition of a ferruginous salt to a cold watery infusion of the herb.

Physiological effects.—Its properties are analogous to those of the other mints. The public fancy it to be possessed of some specific emmenagogue and antispasmodic qualities; an opinion formerly entertained of it by medical practitioners.

Uses.—It is principally employed in ob-

structed menstruation, in hysterical complaints, and in hooping-cough.

Administration.—There are several preparations of Pennyroyal kept in the shops: the first of these is the *oil* (*oleum Pulegii*), which may be given in doses of from one to five drops on sugar. The *spirit* (*spiritus Pulegii*) is obtained by distilling the herb with proof spirit and water; or it may be extemporaneously prepared by dissolving the oil in proof spirit of wine, as directed for the spirit of spearmint: its dose is two or three drachms. But the most frequently employed preparation is the *water* (*aqua Pulegii*), which is prepared from the oil in the manner already described for mint-water. What is sold in the shops for *Pennyroyal* and *Hysterical water*, is pennyroyal water, to which some compound spirit of bryony is added, in the proportion of half an ounce to half a pint of the water. Its dose is one or two ounces. An *essence* may be prepared analogous to the essence of peppermint.

Lavendula spica (Decandolle).

Lavender is not mentioned by Hippocrates, Theophrastus, or Dioscorides. It is supposed, however, to be noticed by Pliny, under the name of *Pseudo-nardus*, and by Mesue under that of *Stæchas*.

Two kinds of lavender have long been in our gardens—the *narrow leaved* and the *broad-leaved*, or *spike*. Linnæus included both in one species, under the name of *Lavendula spica*; but later botanists have separated them. Thus the *narrow-leaved* is called by Decandolle *Lavendula vera*, and by Ehrenberg *Lavendula angustifolia*; while the *broad-leaved* or *spike* kind is termed by Decandolle *Lavendula spica*; by Ehrenberg and by Villars the *Lavendula angustifolia*.

The *broad-leaved* or *spike lavender* (*L. spica*, *Decand.*) is not employed in medicine. The oil which is obtained from it by distillation is imported into this country under the name of *oil of spike* (*oleum spicæ*), or *foreign oil of lavender*. As it is sometimes adulterated with oil of turpentine, or with the oil of *Lavendula Stæchas*, it is often called *true oil of spike* (*oleum spicæ verum*). It is readily distinguished from the oil of the *Lavendula vera* by its darker greener colour, and by its much less grateful odour. It is used by the painters on porcelain, as a vehicle for laying on their colours, and by artists in the preparation of varnishes.

Lavendula vera (Decandolle).

As just mentioned, this plant is the *Lavendula angustifolia* of some botanists. It is extensively cultivated at Mitcham, in Surrey; from which place the London market is principally supplied. The

flowers are of a bright blue colour, have a pleasant odour, and a pungent bitter taste. The spikes are collected in June or July, dried in the shade, and put in bundles for sale. From 100 parts of the fresh flowers are procured about 50 of the dried.

The most important constituent of the flowers is *volatile oil*; there are also present a *bitter matter*, and probably *tannin*. Lavender is rarely employed in medicine. It possesses carminative, stimulant, and tonic properties. Both flowers and leaves are sometimes used as sternutatories; the former are a constituent of the *compound powder of asarabacca* of the Dublin and Edinburgh Pharmacopœias.

Oil of lavender.—By distillation we obtain a very fragrant oil, the *oleum lavendulæ veræ*, commonly known in commerce as the *English oil of lavender*. It is readily distinguished from *oil of spike*, by its more fragrant odour and paler colour.

Saussure analysed the rectified oil of lavender, but whether it was this variety, or the oil of spike, I am not quite certain. He found that it contained—

Carbon	75.50
Hydrogen	11.07
Oxygen	13.07
Nitrogen	0.36
	<hr/>
	100.00

This oil is used extensively by perfumers, and but rarely by medical practitioners. It possesses, however, the stimulant and carminative properties of the volatile oils in general, and may be given in doses of from one to five drops in hysteria and nervous headache. It enters into the composition of the *compound tincture of ammonia*.

Spirit of lavender.—The spirit of lavender of the Pharmacopœia is prepared by distilling lavender flowers with rectified spirit, a sufficient quantity of water being added to prevent empyreuma. Fresh flowers are ordered, but the dry ones will answer nearly, if not quite, as well. As this preparation is merely a solution of the oil of lavender in rectified spirit, many druggists save themselves the trouble of distillation by dissolving the oil in spirit: the proportions usually employed being two or three drops of the oil to an ounce of rectified spirit. Spirit of lavender is only employed in the preparation of the compound liniment of camphor, and the compound tincture of camphor.

Lavender perfumes.—Lavender is the base of various fragrant perfumes sold in the shops. Thus the liquid sold under the name of *lavender water* is a solution of lavender and other odoriferous oils in rectified spirit. Here is an approved recipe

for it:—“Take of rectified spirit of wine five gallons, essential oil of lavender twenty ounces, essential oil of bergamotte five ounces, essence of ambergris (made by digesting one drachm of ambergris and eight grains of musk in half a pint of alcohol), half an ounce. Mix.” If the quantity of oil of lavender be reduced to 15 ounces, we need employ only three-fourths of the above quantity of spirit, and in the place of the other fourth add distilled water, and use more ambergris. If the liquid be milky after filtering, it may be cleared by a little magnesia.

French perfumers prepare a liquid termed *eau de vie de lavende*, in the following manner:—Take of rectified spirit (sp. gr. 0·850) two gallons, oil of lavender six ounces, rose-water a quart, common water two quarts, quick-lime an ounce. Dissolve the oil in the spirit, and then add the waters. Shake the mixture frequently for twenty-four hours, in order to re-dissolve as much as possible of the oil, which may be separated. To clear the liquid, add the lime, mixed with eight ounces of water. At the end of twenty-four hours, filter.

Compound tincture of lavender.—This preparation, formerly called in the Pharmacopœia *compound spirit of lavender*, is commonly termed *lavender drops*, or *red lavender drops*. It is a favourite remedy with hysterical and hypochondriacal persons. It is a mixture of the spirits of lavender and rosemary, to which cinnamon, nutmeg, and, for a colouring ingredient, red saunders wood, have been added. It is stimulant and cordial, and is employed to relieve gastric uneasiness, low spirits, languor, faintness, &c. The dose is half a drachm to two drachms, administered in water or on sugar.

Origanum vulgare.

Several kinds of *Ὠρίγανος* are mentioned by the ancient Greek and Latin writers, but their descriptions are too vague to enable us to determine the particular plants referred to.

Origanum vulgare, or common marjoram, is an indigenous perennial, belonging to class *Didynamia*, order *Gymnospermia*. The whole plant has a peculiar aromatic odour, and a warm pungent taste. By distillation it yields an acrid volatile oil, the *oleum origani*, sold in the shops under the name of the *oil of thyme*. This oil is applied to carious teeth by means of lint or cotton, to relieve the toothache. Mixed with olive oil, it is frequently employed as a stimulating liniment against alopecia or baldness, rheumatic or paralytic complaints, sprains, bruises, &c.

Origanum Marjorana.

Sweet marjoram is employed by the

cook as a savoury herb, but is rarely used for medical purposes. The Edinburgh College, however, has retained it in the Pharmacopœia. The whole plant has a warm aromatic flavour, owing to the presence of the volatile oil, which may be obtained in the separate state by distillation. The effects of sweet marjoram are those of a tonic and mild stimulant. Its powder is a constituent of the *compound powder of asarabacca* of the Edinburgh Pharmacopœia, which, as I have before mentioned, is employed as an errhine. The *oil of sweet marjoram* is rarely used in medicine; but its effects are analogous to those of the other labiate volatile oils.

Origanum Dictamnus.

Dittany of Crete (as this plant is usually termed), was a famous medicine among the ancient Greeks and Romans; but it is not now used in medicine, at least in this country. It is an aromatic tonic, like the other labiate plants, and owes its activity to a volatile oil.

You must not confound it with *Dictamnus Fraxinella*, a plant belonging to the family Rutaceæ, which was lately recommended in epilepsy. [See MEDICAL GAZETTE, vol. xix. p. 142.]

Rosmarinus officinalis.

The *Λιβανωτὶς στεφανωματικὴ*, or *Libanotis coronarium* of Dioscorides, is supposed to be our officinal rosemary, which received its name, *Λιβανωτὶς*, from *Λίβανος*, *Frankincense*, on account of its odour, the word *στεφανωματικὴ* having reference to its use in garlands. Pliny terms it *Rosmarinum*. The flowers are termed *anthos* (from *ἄνθος*, a flower), signifying they are the flowers par excellence; just as we call *cinchona the bark*, and the inspissated juice of the poppy, *the juice*, or *opium*.

It is a native of the southern parts of Europe, but is commonly met with in our gardens. It belongs to class *Dianthia*, order *Monogynia*, in the Linnean arrangement. The flowering tops are the officinal part; they have a strong and remarkable odour, and a warm bitter taste, owing to the presence of *volatile oil*.

Oil of rosemary, or *oleum anthos*, is transparent and colourless, with the odour of rosemary, and a hot aromatic taste. It consists, according to Saussure, of—

Carbon	82·21
Hydrogen	9·42
Oxygen	7·73
Nitrogen	0·64

100·00

The admired flavour of Narbonne honey depends on the bees collecting it from

rosemary plants, which abound in the neighbourhood of Narbonne.

The medical qualities of rosemary are analogous to those of other labiate plants. It has been supposed to have a slightly stimulant operation on the nervous system, and was, in consequence, formerly termed cephalic. Moreover, it was thought to be emmenagogue. It is now rarely employed. The *powder* is occasionally used as an errhine. The *volatile oil* (*oleum rosmarini*) may be taken internally as a stimulant, in doses of from two to six drops. It is frequently employed externally as a constituent of stimulating and rubefacient liniments, especially in alopecia or baldness. The *spirit of rosemary* is prepared by dissolving four drops of the oil in an ounce of rectified spirit; and may be taken internally in doses of one or two drachms, but it is more commonly employed, on account of its odour, as an ingredient in lotion and liniments. It is a constituent of the compound tincture of lavender, and the compound camphor liniment.

The celebrated *Queen of Hungary's water* is essentially a spirituous solution of the oil of rosemary. It is said to have received its name from the secret of its composition having been delivered by a hermit to a certain Queen of Hungary. To improve its odour, oil of lavender, and sometimes other odoriferous substances, are mixed with it. Here is a formula for it: oil of rosemary, four ounces; essence of bergamotte, one ounce; essence of musk, half an ounce; rectified spirit, thirteen pints; water, five pints. Mix.

Marrubium vulgare.

This is the plant which is called *Πρόσιον* by Hippocrates, Theophrastus, and Dioscorides, and *Marrubium* by Pliny.

It is a common indigenous plant, growing in waste places and way sides. It belongs to class *Didynamia*, order *Gymnospermia*. The whole herb is used in medicine. It has an aromatic odour, and a very bitter taste. Its bitterness depends on the presence of *extractive*, its aromatic quality on *volatile oil*. As the cold watery infusion produces an olive green colour with the ferruginous salts, there would appear to be present some *astringent matter*.

Horehound is tonic, stimulant, and, in large doses, laxative. It is said to promote the secretions, especially of the skin and kidneys. Moreover, it was formerly supposed to possess emmenagogue properties.

It is rarely employed by medical practitioners. As a domestic remedy it is used in chronic pulmonary complaints, particularly catarrh. It was formerly exhibited in hepatic and uterine affections.

It may be given in *powder*, in doses

of from half a drachm to one or two drachms. It is, however, commonly exhibited in *infusion*, under the name of *horehound tea*. This is prepared by digesting an ounce of the herb in a pint of boiling water. The dose is a wine-glass full. A *syrup* is kept in the shops; it is made with the infusion and sugar. *Candied horehound* ought to contain the same ingredients only.

RUTACEÆ.

I shall commence this family by speaking of

Ruta graveolens.

History.—This plant was highly esteemed by the ancients; and is frequently mentioned by Hippocrates under the name of *Πήγανον*. Pliny says that Pythagoras (who died in the year 489 before Christ) fancied that Rue was hurtful to the eyes: but, adds Pliny, he was in error, since engravers and painters eat it with bread or cresses to benefit their eyes.

Botany.—It is a native of the south of Europe, but is commonly cultivated in our gardens. The ancients had a curious idea that stolen rue flourished the best; just as, says Pliny, it is said that stolen bees thrive the worst.

It is a small branching under-shrub, the lower part of the stem only being woody. The leaves are supra-decom-pound, with oblong lobes, of a glaucous or bluish-green colour. The flowers form irregular umbellate racemes, and consist of a four or five-parted calyx, a corolla of four or five unguiculate, concave, yellow petals; eight or ten stamina, an ovarium composed of as many carpella as there are sepals, one style, and a single stigma. The fruit is a subglobose capsule. The first flower usually has ten stamina, the others eight. It is remarkable that the anthers move in turns to the pistillum, and after they have shed their pollen retire.

Rue belongs to class *Decandria*, order *Monogynia*, in the Linnean arrangement.

Chemical properties.—Rue was analysed by Mahl in 1811. He found the constituents to be the following:—

Volatile oil.
Extractive.
Chlorophylle.
Matter precipitable by galls.
Gum.
Albumen.
Starch.
Malic acid.
Woody fibre.

The most important, because the active, constituent, is the oil.

Oil of rue has a pale yellow colour, the well-known odour of rue, and a bitter

acid taste. Its specific gravity is 0.911. It is said to be more soluble in water than the other volatile oils. When injected into the veins Orfila found that it acted as a narcotic.

Physiological effects.—The local action of rue is acrid; its remote operation, stimulant. Some have supposed (though without sufficient foundation) that it exerted a specific influence over the uterine system, and thereby promoted the menstrual discharge: hence we find that in many physiological classifications of the *materia medica* it is placed among emmenagogues. By some, however, it is ranked with tonics, though it is certainly more stimulant than corroborant. Taken in large doses Bouillard says it causes great agitation, fever with yawnings, and dryness of the mouth and throat.

The following is a remarkable illustration of the acidity of rue. After some very hot days in June 1823, Roth, an apothecary at Aschaffenburg, cut down a considerable quantity of rue while in full bloom, and separated the leaves from the stalks. The next morning both his hands were very red and hot, and on the third day appeared as if they had been exposed to hot aqueous vapour. They were besmeared with oil. Towards evening vesication commenced, and was most copious at the points of the fingers. On the fourth day the parts were still much swollen; and between the blisters the skin had assumed a dark red or purplish hue. On the fifth and sixth days the swelling extended up the back part of the arm as far as the elbow. Poultices (of chamomile and elder flowers) were applied, and the blisters cut. Within four weeks the skin had gradually peeled off. His children, who had played with the rue, suffered with swelling of the face and hands.

Uses.—Rue is now rarely employed by medical practitioners, though formerly it enjoyed some celebrity as an emmenagogue in uterine complaints, especially amenorrhœa; as an antispasmodic in hysteria and flatulent colic; and as an anthelmintic.

Administration.—As rue loses part of its activity by drying, the powder of the dried plant is not an eligible preparation, though it may be administered to the extent of half a drachm at a dose. An infusion of the fresh herb is sometimes used, as a popular remedy, under the name of *rue tea*. The confection is added to antispasmodic enemata. The oil may be given to the extent of a few drops, rubbed down with sugar and water. *Rue water* may be prepared as mint water. *Syrup of rue* is kept in the shops, and is used by nurses to relieve the flatulent colic of children. It

may be extemporaneously prepared by adding eight drops of the oil to a pint of simple syrup. The extract contains very little oil, and may be given in doses of ten or twenty grains as a tonic.

Diosma crenata, odorata, and serratifolia.

History.—The natives of the Cape of Good Hope employ several species of *Diosma* on account of their odoriferous and medicinal qualities. A powder composed of the leaves of various aromatic or scented plants (mostly species of *Diosma*) is used by the Hottentots for anointing their bodies; this powder they term *Bookoo*, or *Buku*; hence the origin of the word *Buchu* applied to the leaves of certain *Diosmas* in this country. Botanists have named the genus *Diosma*, from *δῖος*, *divine*, and *ὄσμη*, *smell*, in allusion to the fondness of the Hottentots for the odour of these plants. Although *Diosma crenata* was introduced into the botanical gardens of this country in 1774, it was not employed in medicine until 1823.

Botany.—Decandolle enumerates no less than seventy-five species of *Diosma*, all natives of the Cape. The officinal species (*D. crenata*) is about two feet high; its leaves are ovate, acute, dotted, glandular-serrate; the pedicles are solitary, and somewhat leafy. The flowers consist of a five-partite calyx, a corolla of five pale reddish petals, five fertile stamina, five abortive scale-like stamina, commonly termed nectaries, and one style. The fruit is a smooth, glandular, five-valved, five-celled capsule.

The leaves of *D. serratifolia*, *D. odorata*, and probably also other species, are imported under the name of *buchu*, and are, I believe, equally effective.

In the Linnean arrangement the genus *Diosma* belongs to class *Pentandria*, order *Monogynia*.

Properties and varieties of buchu leaves.—The leaves found in the shops under the name of *buchu* are mixed with stalks and fruit, and present considerable variety in regard to form and size.

1. *Ovate buchu leaves* (*Leaves of Diosma crenata*?)—Their form is for the most part ovate, but many are oval, or even oblong, and some are obovate. They are smooth and somewhat shining, and are sharply or bluntly serrated or crenated. Their consistence is coriaceous, their colour is pale or yellowish green, their odour strong and rue-like (though some compare it to rosemary, others to cumin or cat's urine), their taste is warm and mint-like. They are beset, both on the edges, especially between the teeth, and on the under surface, with glands filled with essential oil.

2. *Linear-lanceolate buchu leaves*: Leaves of *Diosma serratifolia*.—The leaves are linear-lanceolate or lanceolate, and serrated.

3. *Ovate-oblong buchu leaves*: Leaves of *Diosma odorata*.—These are ovate-oblong, or obovate-oblong, serrate, with a strong odour.

Chemical composition.—Two analyses of these leaves were made in 1827, one by Brandes, the other by Felix Cadet-Gassicourt. The constituents, according to Brandes, are the following:—

Pale yellow volatile oil	0.88
Resin soluble in alcohol, not so in æther	2.34
Bitter extractive (<i>Diosmin</i>)	3.78
Chlorophylle	4.77
Gum	12.71
Lignine	45.00
Brown substance extracted by potash, and soluble both in alcohol and water	1.56
Nitrogenous matter extracted by potash, insoluble in alcohol .	2.42
Albumen	0.58
Malic acid, and matter precipi- table by tannin	1.56
Bassorin, with oxalate and phosphate of lime	4.53
Various salts of potash and lime	3.07
Water	12.94
Acetic acid and loss	3.86
	<hr/> 100.00

The active principles of the plant are the *volatile oil*, the *resin*, and the *bitter extractive*.

The *oil of buchu* is lighter than water, and has a yellowish-brown colour, and the remarkable odour of the leaves. *Diosmin* is of a brownish-yellow colour, and has a bitter, somewhat pungent taste. It is soluble in water, but not in alcohol or æther. It appears to be allied, in a chemical point of view, to Cathartin, Bryonin, and Colocynthin.

Physiological effects.—Buchu is an aromatic stimulant and tonic. It promotes the appetite, relieves nausea and flatulence, and increases the secretion of urine; and from its beneficial effects in various diseases of the urinary organs, has been supposed to exercise a specific influence over these parts. It also promotes perspiration.

Uses.—The natives of the Cape of Good Hope prepare a spirit of buchu (which they term *buchu brandy*) by distilling the leaves with the dregs of wine, and use it in all chronic diseases of the stomach and bladder.

In *chronic inflammation of the mucous membrane of the bladder*, buchu has obtained some celebrity in this country. It

frequently diminishes the discharge of mucus, and enables the patient to retain his urine. But it is sometimes useless, and at other times it has increased the irritability of the bladder. In *spasmodic stricture* it has also been used with benefit. In *urinary diseases*, attended with increased secretion of uric acid, it is also serviceable. In *rheumatism* it seems to have been useful occasionally by its sudorific properties; and when employed externally, by its rubefacient qualities. In some *stomach affections* (as dyspepsia) its aromatic and tonic qualities have rendered it serviceable.

Administration.—The dose of buchu in powder is a scruple or half a drachm, usually taken in wine. The *infusion* may be given to the extent of one or two ounces. The *tincture* of the Dublin Pharmacopœia is prepared by macerating two ounces of the leaves in a pint of proof spirit: the dose is from one to three or four drachms. This preparation is sometimes used externally as a stimulating or rubefacient embrocation.

Galipea officinalis (Hancock).

History.—Mutis is said to have used the bark of this tree so long ago as the year 1759. It was, however, not brought to England until 1788; and the first public notice of it was given in the London Medical and Physical Journal for 1789. In 1791, says Mr. A. E. Brande, there had been 40,000 lbs. or upwards imported. It was called *cortex Angusturæ*, from *Angustura*, in South America, whence the Spaniards brought it.

Botany.—The tree yielding this bark was first described by Humboldt as *Cusparia febrifuga*. But in 1802, Willdenow, to whom a specimen was sent, made a new genus of it, under the name of *Bonplandia*, adding as the specific name *trifoliata*. Subsequent examination, however, has shewn that it really belongs to the genus *Galipea* of Aublet: hence Decandolle has termed it *Galipea Cusparia*, a name which Dr. Hancock has objected to, because the tree which, according to him, yields the *Angustura* bark, differs in several characters from that described by Humboldt; and he therefore proposes to term it *Galipea officinalis*.

The *Galipea officinalis* is a native of South America, growing abundantly on the mountains in the neighbourhood of St. Joaquin de Carony, between the seventh and eighth degrees of north latitude. It is also well known in the missions of Tumeremo, Uri, Alta Gracia, and Cupapui. It flourishes at the height of between 600 and 1000 feet above the level of the sea. The stem does not exceed

twenty feet in height, and is from three to five inches in diameter. The trifoliate leaves have an odour like that of tobacco; they are alternate, and stand on long footstalks, which are about as long as the leaflets. The flowers form long, terminal, axillary racemes; and consist of lanceolate bractæ, a monopetalous five-cleft calyx, a white tomentose corolla of five unequal petals, two fertile stamina, five abortive ones, commonly called nectaries, a five-lobed ovarium, a filiform style, and a capitate stigma. The fruit consists of five bivalve capsules, each of which contains two seeds.

Galipea is usually placed in class *Pentandria*, order *Pentagynia*; but Galipea officinalis, considered without reference to its kindred species, really belongs to class *Diandria*, or, if the five abortive stamina be reckoned, to class *Heptandria*.

Properties of the bark.—Angustura or Cusparia bark is imported in casks. “The most of what I have seen,” says Mr. A. E. Brande, “has been put into casks in the West Indies; but where the original package remains it is very curious, and formed carefully of the large leaves of a species of palm, surrounded by a kind of net-work made of flexible sticks.” It occurs in flat pieces and quills, of various sizes, covered with a yellowish grey or greyish white epidermis. The colour of the internal surface is brownish; the fracture is short and resinous; the odour strong but peculiar; the taste bitter and aromatic.

Substitution.—I have before* described, under the name of *false angustura*, a bark which, above thirty years since, was substituted for the *true angustura*. There is no fear of any accident of that kind happening now; for I have no doubt that were a package of the spurious bark to appear in the market, it would fetch ten times the amount of the genuine article. After having tried in vain at all the leading drug-houses of London and Paris to procure a sample of the spurious variety, I accidentally met with it twelve years ago. Strolling about the streets of Paris one summer’s evening, I happened to peep into an old dirty apothecary’s shop, when I espied on the shelf a bottle marked “*Fausse Angusture*.” I immediately asked to look at it, and finding it to be the article I had so long been in quest of, purchased the bottle with its contents for a few francs.

Chemical composition.—Several analyses of this bark have been made. The constituents according to Fischer are:—

Volatile oil (of an acrid nature, <i>Pfaff</i>)	0.3
Bitter hard resin	1.7
Balsamic soft resin	1.9
Elastic resin	0.2
Bitter matter (<i>Angusturin-bitter</i>)	3.7
Gum	5.7
Woody fibre	89.1

102.6

The *volatile oil*, obtained by distilling the bark with water, is white, lighter than water, and has the odour of the bark and an acrid taste.

The *hard resin* is brown and brittle, and has a bitterish taste; it is soluble in a solution of potash, in alcohol, and acetic æther; but is insoluble in sulphuric æther, or oil of turpentine.

The *soft resin* is greenish yellow, and has a bitter acrid taste; it colours nitric acid red. It is insoluble in a solution of potash, but readily dissolves in alcohol, æther, oil of turpentine, and almond oil.

The *bitter matter* is soluble in water: acids increase, but alkalies decrease, the bitterness of the solution. The solution is precipitated by protochloride of tin, acetate of lead, and protonitrate of mercury; it colours the salts of iron brown, and throws down therewith a precipitate. Tincture of galls copiously precipitates the watery solution. This substance has been supposed to owe its bitterness to a vegetable base, which has been called *Angusturin*; but further experiments are required to prove its existence.

Physiological effects.—Angustura bark is an aromatic or stimulant tonic, and is very analogous in its operation to Cascarella bark. Its aromatic and stimulant properties depend on the presence of volatile oil and resin; its tonic operation on the bitter matter.

Uses.—It has been employed as a substitute for cinchona in intermittent diseases, in dyspepsia, and other diseases admitting of the use of tonics.

Administration.—The *powder* may be given in doses of ten grains to half a drachm. The *infusion* may be administered to the extent of one or two ounces. The dose of the *tincture* of the Dublin Pharmacopœia is one or two drachms.

Dictamnus Fraxinella.

History.—Fraxinella, or Bastard Ditany, is a very old remedy, which had of late years fallen into disuse in this country. It has, however, recently acquired fresh interest, in consequence of Dr. Aldis having announced that it has been employed during forty years, with great success, in the cure of epilepsy, by

* See MEDICAL GAZETTE, vol. xix. p. 492.

ON THE

DISSOLUTION OF GRAVEL AND
STONE IN THE BLADDER.

BY A. CHEVALLIER,

Chemist; Member of the Royal Academy of Medicine, of the Council of Salubrity, &c. &c.

Translated from the French,

BY EDWIN LEE, M.R.C.S. &c.

Author of "An Account of the Watering Places of the Continent;" "Observations on Continental Medical Institutions and Practice," &c.

[Concluded from page 585.]

XVI.—*On urinary calculi, their nature and the means of recognizing them.*

THE calculi found in the bladder are of different compositions, which has served to classify and designate them.

The first exact ideas on their chemical composition are due to Scheele, who in 1776, having analysed several of these stones, discovered in them uric acid, which he subsequently sought for in the urine. Scheele having only examined uric acid calculi, concluded that all vesical calculi were composed of this substance.

At a later period, Bergman having met with a vesical calculus which contained phosphates, it was then ascertained that the composition of calculi might vary.

In 1797, Wollaston made fresh investigations on the subject, and discovered that urinary calculi might be divided into five distinct classes: 1st, calculi of uric acid; 2d, calculi of phosphate of lime; 3d, calculi of phosphate of lime and ammoniaco-magnesian phosphate, or fusible calculi; 4th, calculi of phosphate of ammonia and magnesia; and 5th, calculi of oxalate of lime, or mulberry calculi.

Shortly afterwards Fourcroy and Vauquelin, who were unacquainted with the work of Wollaston, analysed about six hundred calculi obtained from different practitioners, and found in these concretions not only the substances indicated by Wollaston, but also urate of ammonia and silex: the latter substance was found in two calculi only.

Prout subsequently discovered carbonate of lime in human calculi; the presence of this salt was at first doubted, but later researches have confirmed the fact.

Baron A. Sloet van Oldruitenburgh and family*: and as I know many practitioners have been induced to give it a trial, a short notice of it may perhaps be interesting.

Botany.—It is a native of the southern parts of France, of Italy, and Switzerland. Its stems are about two feet high, its leaves pinnate, and somewhat similar to those of the ash (*Fraxinus*); hence its name *Fraxinella*. Its flowers are arranged in terminal racemes, and consist of a five-partite calyx; a corolla of five unequal petals; ten stamina, the filaments having glandular-tubercular points; a longitudinally inclining style, and a simple stigma. The fruit is a capsule composed of five corpella, each containing two seeds. Two varieties of it are met with, one with purple, the other with white flowers. They form the varieties (*a*) *purpurea*, and (*β*) *alba*, of Decandolle.

The plant belongs to class *Decandria*, order *Monogynia*, of the Linnean arrangement.

The part employed in medicine is the root. As met with in commerce it has been dressed; and in this state it is whitish, is more or less rolled or quilled by drying, and has a faint aromatic odour, and a bitter mucilaginous taste.

No regular analysis of it has been made, but its leading constituents appear to be

Volatile oil,
Resin,
Gum (?),
Bitter extractive,
Woody fibre.

It is an aromatic tonic, and was formerly supposed to possess antispasmodic, diuretic, and emmenagogue properties. Moreover it was denominated emmenagogue.

It was employed in intermittent diseases; in affections of the nervous system—as epilepsy and hysteria; in uterine disorders, and against worms. I am acquainted with one case of epilepsy in which Baron Sloet's remedy has been fairly tried. The patient (a young lady) has taken it for six months: her general health, I am informed, is somewhat improved, and the fits less frequent. But I am far from being satisfied that these changes are the result of the use of the *Fraxinella*.

The dose of it is from one to two or three scruples.

* See MED. GAZ. vol. xix. p. 142.

In 1810, Wollaston discovered a new constituent principle of urinary calculi, to which he gave the name of cystic oxide.

Marcet subsequently found another new substance, which he termed xanthic oxide, and a calculus composed of fibrin of the blood was presented to him. Calculi of cystic oxide and xanthic oxide have since been found in several patients, and have been made the subject of interesting researches.

Uric acid calculi.—According to some authors these calculi have a brown or fawn colour; according to others, a yellow-brown, or reddish-brown. But these are not the only colours which they present: in our investigations we have found some of chamois-yellow, sulphur-yellow, gold-yellow, orange-yellow, dirty white, greyish-blue, brick-red, deep red, approaching to violet, and even some crystallized: one of these had small crystals of a blue colour. Uric acid calculi vary in form; their surface is sometimes smooth, sometimes covered with rounded prominences, and we have seen some which bore the greatest analogy with calculi of oxalate of lime. The interior of these calculi presents, when they are divided, concentric laminæ of greater or less thickness; sometimes small cavities, resembling the cancelli of calcined bones, are found in the interior of these calculi.

In general, uric acid is scarcely ever pure; it is mostly accompanied with urate of ammonia, a colouring matter, an animal substance, and sometimes fatty matter. When a calculus of uric acid is pulverized and put into boiling distilled water, a small quantity of it is dissolved, and may be obtained by evaporation. Treated with caustic soda or potass, its size increases and it forms a sort of paste, which becomes dissolved on the addition of a fresh quantity of solution of potass and soda distilled with water, frequently leaving a residuum either of flaky matter, or sediments which may be composed of phosphate, oxalate, or carbonate of lime. It is remarkable that when these calculi are treated by alkalies there is almost always an escape of ammonia.

An alkaline solution which contains uric acid, on being saturated by another acid, allows the precipitation of the uric acid, which though at first of a gelatinous appearance, soon, however, assumes the form of small grains, which seen with

a magnifying glass have sometimes a regular crystalline form.

Calculi of uric acid are soluble in nitric acid; the solution has a yellow colour, which turns to a purple when exposed to the action of gentle heat on a small china plate. When heated by the flue after being placed in a small platinum testing dish, or when placed in a small porcelain cup among red-hot coals, they emit a smell of burnt horn or prussic acid: if they be composed of pure uric acid scarcely any residuum is obtained; if, however, of uric acid and phosphate, they yield a more considerable residuum, which is but slightly alkaline, and is soluble in nitric acid without effervescence; if the calculi are composed of uric acid or oxlate, a very alkaline residuum is obtained, but it is not soluble in water. When heated in a small crucible, uric acid calculi yield a white sublimated acid in fine scales, which have been designated by the name of pyro-uric acid, now known by the term cyanuric acid.

Calculi of urate of ammonia.—These calculi, the existence of which was first ascertained by Fourcroy and Vauquelin, have been the occasion of a discussion.

Brande stated that calculi of this nature did not exist, and that the ammonia obtained by treating with potass these pretended calculi of urate of ammonia, was derived either from a portion of the ammoniaco-magnesian phosphate which existed in the calculus examined, or from the ammoniacal salts contained in the urine. Prout confirmed by his experiments the discovery of Fourcroy and Vauquelin, and demonstrated the inexactitude of Brande's assertions. This kind of calculus is rare, generally small, and of a colour ranging from white to grey; the surface is generally smooth, but sometimes uneven; it is formed of concentric laminæ. These calculi, as Fourcroy states, have often earthy phosphate intermixed with the laminæ of urate of ammonia.

Pure urate of ammonia treated by potass becomes entirely dissolved, a considerable quantity of ammonia escaping; subjected to heat, it should give the same results as pure uric acid, viz. leaving no residuum of lime or phosphate; treated by nitric acid and heat, it is changed to a fine red colour, of which we have already spoken.

Calculi of phosphate of lime and am-

moniaco-magnesian phosphate.—These calculi are cretaceous and earthy; they sometimes present small cavities, which contain brilliant crystals of ammoniaco-magnesian phosphate. When heated by the flue, they melt with the greatest promptitude, from which circumstance they are termed fusible calculi. Before dissolving they become black, and ammonia is disengaged. By being subjected to the action of acetic acid diluted with water, almost all the magnesian salts may be extracted, whilst most of the lime remains: hydrochloric acid readily dissolves them. The proportion in which the phosphate of lime and the ammoniaco-magnesian phosphate exist, affects the fusibility of these calculi. When the phosphate of lime predominates, their fusibility is diminished, and they may even become infusible; if the magnesian salt predominate, they are more difficult to melt, but are not infusible. These calculi sometimes contain urate of lime; the uric acid may be separated by an alkali, saturating the alkaline solution by an acid, as the hydrochloric acid causes the precipitation of the uric acid.

Calculi of ammoniaco-magnesian phosphate.—These calculi are laminated, semi-transparent, hard, and coherent; they can be sawn easily, and do not break like the phosphate of lime; the powder obtained by sawing is fine, soft to the finger, of a bright white colour; it differs from the powder obtained from phosphate of lime, which is coarse, of a dirty white, and without brilliancy. This salt has a sweetish insipid taste, and is not soluble in water. Acids readily dissolve these calculi; alkalies added to the acid solution give rise to a precipitate which presents the characters of ammoniaco-magnesian phosphate.

When treated by caustic potass, the volatile alkali becomes disengaged. When subjected to the action of heat, there is disengagement of ammonia. They blacken after the carbonization of the animal matter which they contain, subsequently assume a grey colour, and finally melt into an enamel, which, mixed with a little nitrate of cobalt, becomes of a beautiful red colour.

Calculi of oxalate of lime.—Oxalate of lime calculi have most frequently an uneven surface, which may be compared to the mulberry, whence their name of mulberry calculi: their colour varies;

it is at times chesnut, dark red, grey, brown, green, or black. Their colour has been ascribed by Marcet to blood being mixed with them at the time of their formation, the blood being caused by the irritation of the bladder from the inequalities on their surface; they are sometimes small, of a white or bright yellow colour, and formed of sharp edged crystals strongly joined together: occasionally they are smooth, and but slightly coloured. When subjected to the action of heat, they swell and become carbonized, emitting an odour of burnt horn: if the residuum be exposed to a strong heat, caustic lime is obtained, which may be changed into hydrated lime by the addition of a little water.

Reduced to powder and placed in contact with hydrochloric acid, they are dissolved: by evaporating the solution, the oxalate of lime is separated and deposited in the form of small sharp crystals. If the powder, instead of being treated with hydrochloric acid, be placed in contact with caustic potass, part of the animal matter may be extracted without affecting the oxalate of lime: if, instead of caustic potass, the carbonate be employed, the oxalate becomes decomposed, carbonate of lime is formed and precipitated, and the oxalate of potass remains in solution, coloured by the animal matter*.

Of the urinary sediments and gravel. The name of sediments has been given to the depositions which pass away with the urine and render it thick, and that of gravel to the products which are easily separated and deposited from the urine, often assuming the form of small crystals, sometimes that of fragments joined together, and occasionally that of small calculi formed of several layers.

Sediments and gravel are composed of different substances:—

1, uric acid; 2, urate of ammonia; 3, phosphate of lime; 4, phosphate of lime and phosphate of magnesia; 5, ammoniaco-magnesian phosphate; 6, oxalate of lime; 7, cystic oxide.

The name of red gravel has been given to that compound of uric acid on which chemical re-agents produce the same effects as on uric acid calculi.

White gravel is most frequently com-

* In consequence of the extreme rarity of the other kinds of calculi, the translator does not deem it expedient to follow the author through the chemical details respecting them.

posed of phosphate of lime, but occasionally of carbonate of lime.

Phosphate of lime gravel is dissolved in weak nitric or hydrochloric acid without effervescence, and the phosphate may be precipitated from the solution by ammonia, whilst gravel of carbonate of lime dissolves with effervescence, and the solution yields no precipitate on the addition of ammonia.

The term hairy gravel has been given to a white product in which hairs are perceived. This gravel has been examined by Pelletier, who found in it a considerable quantity of phosphate of lime, a small quantity of phosphate of magnesia, and a trace of uric acid.

Grey gravel is composed of ammoniac-magnesian phosphate, animal matter, with a trace of uric acid. Yellow gravel has been analysed by M. Desprez, who found it to consist of nearly pure oxalate of lime. Transparent gravel is composed of cystic oxide.

The means to be employed for ascertaining the nature of urinary sediments and gravel are the same as those indicated for calculi; that is to say, heat, water, alkalies, acids, &c. &c.

XVII.—On the means of ascertaining the nature of calculi contained in the bladder.

As Fourcroy says in his "Système des Connoissances Chimiques," there are but few means of ascertaining the value of a calculus contained in the bladder: by sounding we can nearly find out its size, hardness, and the smoothness or roughness of its surface, but we cannot thus acquire information as to its composition; no symptom enlightens us on the subject, and ulterior investigations would be of the highest utility.

Fourcroy, however, proposed several means for the object: 1st, the chemical examination of the urine of calculous patients. This learned chemist observed, and we have had occasion to verify his observation, that the urine of stone patients in which there was an almost total absence of uric acid, indicated that the calculi which were formed were owing to this acid.

Having had occasion to examine the urine of two patients with stone, Fourcroy found that it contained scarcely any uric acid, and he concluded that the calculi consisted of this acid. One of these patients having died of old age,

misery, and exhaustion, a calculus of uric acid was found in his bladder.

2d, the chemical examination of the sand or gravel voided either before or after the symptoms of stone in the bladder, may furnish indications as to the nature of the calculus.

3d, the use of injections and the examination of the liquids after they have served for the injections, and remained during a longer or shorter period in the bladder.

Fourcroy says, that when water laden with potass or soda has been employed, it should be preserved and examined, after it has cooled and been filtered; that water containing a small quantity of soda or potass will yield by the addition of hydrochloric acid a white precipitate of uric acid if the injection have acted on a calculus of uric acid or urate of ammonia—which calculi form at least a third of those found in the bladder; that this test repeated several successive days ought to indicate the nature of the calculi.

From what we have seen, we think that prolonged injections made with an alkaline water, (Vichy water) at the usual temperature of the bladder, may replace the solutions of soda or potass recommended by Fourcroy; we also think, that the property which we have observed in this water, of breaking down phosphatic calculi, may furnish results by examining the water injected for several days, calculated to indicate whether the calculi contained in the bladder are composed of phosphate: it seems to us the more fit for this object, inasmuch as it contains carbonic acid, and M. Thenard has demonstrated that the carbonate and the phosphate of lime are soluble in carbonic acid.

We may, however, as recommended by the savant whom we have already quoted, in the event of the calculi not being affected by injections with alkaline water, try injections of water acidulated with hydrochloric or nitric acid (we prefer the former): the acidulated water when placed in the mouth should not affect this organ disagreeably. In this case, the injection after having been used, should be tested with ammonia, in order to ascertain whether it contains any phosphate, the solutions of which yield, by the addition of ammonia, a precipitate easily recognizable, or it is light and flaky, and is again dissolved by acids without effervescence.

It has been said that Fourcroy's method could only indicate the nature of the superficial layer of the calculus, and could throw no light upon the composition of its interior; we may, however, reply, that by examining the liquids after injections, we can ascertain whether the nature of the layers varies during the treatment; for supposing a calculus to be acted on, the first layer of which is composed of uric acid, and the second of phosphate of lime, the phosphatic calculus will afterwards yield portions of phosphate, which will be carried off by the urine, which circumstance should not escape the attention of the observer.

To the indications given by Fourcroy, we think, as does also Prout, that the examinations of the depositions which are formed in the urine of many patients with stone, may likewise throw light upon the subject: these depositions are of frequent occurrence, but they are very seldom examined.

The employment of sounding has been considered as furnishing indications respecting the nature of calculi, and the following consequences have been deduced:—

1st. When a calculus emits a clear sound on percussion—when on passing over its circumference with a straight sound, it is ascertained that it is of middling size and not covered with irregularities, or that it is smooth—we may infer that it is composed of uric acid or urate of ammonia.

2d. If a clear sound be obtained in percussion, if the calculus is found to be of small size, we may be led to infer that it consists of oxalate of lime.

3d. Lastly, if the sound on percussion with the staff be dull and more indistinct, as when plaster of Paris is struck, we may presume that the calculus is composed of phosphate.

These characters have been considered as not sufficiently marked; we think, however, that much might be learned in this manner, if practitioners were accustomed to pay proper attention to this of examination.

Prout says, that the analysis of the urine and of the sediments which are deposited, as well as the morbid symptoms which are observed, may furnish indications respecting the nature of calculi.

He has stated in the following terms the consequences which may be deduced from the observations made on this subject:—

1st. That the urine of persons affected with a uric acid calculus is of a dark colour; that its specific gravity is greater than that of the urine of a healthy person; that it almost always deposits a red crystallized sediment consisting of uric acid, which becomes more abundant whenever pain and irritation exist; that when this is the case it is mixed with other sediments, which are pulverulent, and with mucus, but that this last substance is much less abundant when the patient is affected with a uric acid calculus, than when another kind of calculus exists; that this urine, which is occasionally opaque at the time of its evacuation, becomes transparent after a few minutes rest*.

2d. That uric acid calculi give rise to less formidable symptoms than those occasioned by other kinds of calculi, so that they may remain in the bladder for a longer or shorter period without the existence of any symptoms which could cause their presence to be suspected during the life of the patient†.

3d. That calculi composed of phosphate cannot long exist in the bladder without producing all the symptoms of stone; that is to say, by giving rise, not only to very acute pain, but also to alterations in the general state of the constitution, so that those who are accustomed to see patients affected with this kind of calculus are enabled to recognize them by the expression of their physiognomy; that the urine of such patients is generally abundant, of little density, slightly opaque, and somewhat analogous in appearance to whey; that the phosphates are precipitated in the form of a pulverulent sediment, of a yellowish colour, and mixed with a certain quantity of mucus; and that this urine passes through all the degrees of alkaline and putrid decomposition, exhaling an infected odour. The observations which we have had occasion to make on the urine of calculous patients, have demonstrated to us that the phenomena stated by Prout to occur in patients with phosphatic calculi, do

* The characters pointed out by Prout as those of the urine of persons who have uric acid calculi, are not the same as those observed by Fourcroy, neither are they in accordance with our observations. These differences shew the necessity of fresh investigations.

† This opinion, like the preceding one, is not confirmed by facts. Richerand says, in his "*Mémoires Chirurgicales*," that calculi of ammoniac-magnesian phosphate, and of oxalate of lime, of a considerable size, have been found in the bladder of persons who during their lifetime had no suspicion of the presence of these bodies.

not present themselves in all cases; we intend, as opportunities may occur, to pursue our investigations on this point.

4th. That the urine of persons who have calculi of oxalate of lime is generally clear, and does not contain sand or gravel; that the oxalate of lime is never presented alone in the form of a pulverulent sediment; and that it is very rarely observed in the form of crystallized gravel. We have, however, had occasion to recognize in two instances the presence of oxalate of lime, mixed with mucus, in sediments which were sent to us for examination.

ON THE

MANAGEMENT OF LABORIOUS
LABOURS.

To the Editor of the Medical Gazette.

SIR,

HAVING in a former letter, in reference to Dr. Collins's observations on the artificial dilatation of the mouth of the womb during labour, and upon instrumental delivery, &c. &c., endeavoured to shew that the objections which that gentleman has urged against my doctrines on the management of the first stage of labour, are untenable, I proceed now to notice his strictures on my directions for the treatment of laborious labours.

As the subject at issue is, the utility of means calculated to lessen the sufferings, and to shorten the duration of childbearing, and to secure the safety of the parent and of the infant, I trust that the discussion of this question will not be unacceptable to the numerous readers of your valuable publication.

If Dr. Collins had stated accurately my directions for the treatment of laborious labours, and his objections to the same, I should certainly have left the intelligent part of the profession at full liberty to judge between us. But instead of pursuing this very obvious method, I regret to say that he has, by some inexplicable misunderstanding, attributed to me doctrines which are directly at variance with all that I have ever taught, or have ever written.

Under such circumstances, my duty to the profession, for whose benefit my

Practical Observations have been published, calls upon me, *firstly*, to give a summary of my directions for the treatment of laborious labours; and *secondly*, to point out the misinterpretations of those directions into which Dr. Collins has been betrayed. In the course of the discussion upon this latter point, I believe that I can prove that the cases recorded by Dr. Collins himself, illustrate as strongly the utility of my practice in such labours, as if they had been fabricated for the express purpose.

Firstly, After defining laborious labours to be "all cases where, the head of the infant being forced foremost, the labour is protracted beyond twenty-four hours," I have particularly specified, that this *conventional* definition, founded upon the duration of labour, has been adopted as furnishing a salutary check to the importunities of the patient or attendants, and to the impatience of the practitioner (Part II. page 42.) And while I have conceded, "that till the practice of limiting the duration of the first stage be universally adopted, this definition must be retained," I have at the same time expressed my conviction, "that supposing the first stage to be completed within twelve hours, and that labour pains continue to recur regularly, there can be no difficulty in ascertaining, within the remaining twelve hours, whether the natural powers be adequate to the safe delivery of the woman."

Cases of laborious labour must end in one of three ways, viz. in the eventual expulsion of the infant by the natural powers; or in its being possible, where those powers fail, to extract the infant alive with safety to the parent; or in its being impracticable to bring forward a living infant through the natural passages. I have been at particular pains to point out the means by which those three different cases may be distinguished from each other, having distinctly stated, page 46, that for this purpose, the previous history—the duration of labour—the situation of the infant's head—the apparent effect of the pains—the condition of the passages—and the state of the general system, must be severally taken into deliberate consideration.

Proceeding to describe the causes of laborious labours, I have enumerated the circumstances which protract labour

where there is no disproportion; in other words, which occasion the first two orders of laborious labours, viz. circumstances which diminish the uterine contractions, and circumstances which, although they increase the usual resistances, do not constitute actual disproportion; and I have endeavoured to prove that, generally speaking, all those cases are occasioned by mismanagement.

For the treatment of the first order of laborious labours, it is unnecessary to enter into any discussion, as Dr. Collins has not particularly alluded to such cases.

As to that of the second order, my great object has been to impress upon the profession the necessity for the use of mechanical means for completing the delivery, *whenever there is decided evidence that the natural powers are inadequate to accomplish it with safety to the parent.* Thus I have laid down (Part II. page 103 and 105) the following propositions:—*Firstly*, That it is in the power of the practitioner to judge so opportunely whether the labour pains tend to advance the delivery, as to prevent the occurrence of injury either to the mother or to the infant. *Secondly*, That if regular pains continue after the completion of the first stage, and the infant should become wedged in the passage, and be within reach of the forceps, the practitioner ought to interfere before there is a probability that the pressure may destroy the infant's life, and before any untoward symptom threaten the mother. *Thirdly*, That the forceps, if properly employed, can do no harm, while, by diminishing the bulk of the infant's head, it enables the practitioner to lessen as well as to shorten the sufferings of the poor woman. *Fourthly*, That in those protracted cases, to which I have been called after the labour had proceeded for a considerable time, my endeavour has always been to secure the safety of the woman; and when immediate delivery has been necessary, I have had recourse to the forceps without regard to the life of the infant (there being no actual disproportion), provided the previous protraction had produced no injurious effect upon the passages. And, *lastly*, That under similar circumstances, viz. where immediate delivery was necessary, I have declined using

the forceps, when, from the condition of the patient, the application of that instrument might aggravate the injury already done; as, for example, in cases where swelling and inflammation of the parts lining the pelvis had been the effect of the long-continued pressure of the infant upon those parts.

With respect to the third order of laborious labours, after describing the several causes of obstruction to the progress of a living infant through the natural passages, I have endeavoured to explain the means of distinguishing those distressing cases from the more ordinary cases of protracted labour, and have advised young practitioners to examine with great care the dimensions of the pelvis. I have particularly warned them against two errors; *firstly*, mistaking the lengthening of the head of the infant, which is the effect of compression, for its actual advance (Part II. page 129); and *secondly*, forgetting that where the pelvis is very shallow, the uterine contractions sometimes squeeze the head through the brim, even though it be obviously defective. I have added, that while in such patients "the labour pains continue regular, and no untoward symptom occurs, it is the duty of the practitioner to support the strength and spirits of the woman, and to give time, always keeping in view that he is to ascertain what nature can *do*, not what she can *suffer*." (Page 130.) *Finally*, I have stated my conviction, that an intelligent and attentive practitioner can always decide whether there be any considerable disproportion, long before any untoward symptoms occur.

Such is a faithful abridgment of my observations on laborious labours, as explained, not "in a large share of two volumes," as alleged by Dr. Collins,—at least according to our method of reckoning in Scotland. The two volumes contain 745 pages; of these 148 relate to laborious labours; but in 15 of these the induction of premature labour in cases of defective pelvis is considered, a subject to which Dr. Collins has not adverted, and the importance of which he does not seem to have duly appreciated.

Certainly I did not anticipate that any practitioner in the present day, who declares that he had studied every page of those Observations with the utmost

attention, could have asserted that the practice inculcated "is calculated to urge junior practitioners to a hasty, unnecessary, and consequently injurious interference," and could have declared that he felt himself called upon "to advise them against a line of practice which, after the most anxious consideration, with an ample field for observation, he is satisfied is fraught with much hazard to the patient." Yet such is the language with which Dr. Collins prefaces his observations on my practice.

Secondly. Having deliberated with great care upon Dr. Collins's objections to my practice in laborious labours, it appears to me that they relate to the assumptions, pages 103 and 105 (Practical Observations, Part II.), already referred to, and I shall now notice the assumptions and objections *seriatim*.

Before entering on this discussion, it is necessary to advert to an opinion strongly insisted upon by Dr. Collins, that the safety and the utility of the practice in cases of child-bearing, are to be estimated by the general result as to the life or death of the patient, in a great institution such as the Dublin Lying-in Hospital,—*vide* Dublin Journal of Medical Science, No. 31, page 45. And yet, notwithstanding this strong language, he seems to have had some misgivings on the subject, for in his Practical Treatise, p. 86, after detailing the particulars of certain cases, he adds,—“The reader will be thus enabled to form his own conclusions, both as to the practice adopted in each case, and as to the general result.”

It cannot be doubted that, for practical purposes, the means pursued in individual cases can be alone interesting to junior practitioners, to whom Dr. Collins professedly addresses his warnings against my practical precepts. Very few of them can aspire to the charge of a magnificent establishment, in which 16,414 women are delivered in the course of seven years. Their expected duty is attendance upon individuals, and the history of the cases which occurred in the Dublin Lying-in Hospital, is declared by Dr. Collins himself to have been for their instruction. Accordingly, the practice which had been pursued in the cases of protracted labour detailed by Dr. Collins, is that which alone relates to the present discussion. The

records of those cases present a most graphic description of the sufferings consequent on the protraction of labour, and they afford a most valuable lesson to young practitioners. They shew incontestibly the injurious effects of indecision and procrastination. The candour with which the details are given reflects the highest credit on Dr. Collins.

My *first* assumption is, “that it is in the power of the practitioner to judge so opportunely whether the labour pains tend to advance the delivery, as to prevent the occurrence of any injury either to the mother or to the infant.”

This assumption is founded upon the previous directions, page 45, *et seq.*, for distinguishing the three different orders of laborious labour from each other. Those directions have been in a most singular, and to me, an inexplicable manner, misinterpreted by Dr. Collins.

He asserts, that “I instruct the junior practitioner to effect the delivery of his patient within twenty-four hours,” adding the following words:—“It appears to me to cruelly encourage the destruction of the child, while in the great majority of cases, not even a shadow of necessity could exist for such a proceeding. Surely no experienced practitioner would be guided as to the safety or otherwise of his patient when in labour by the *number of hours*, but by the present symptoms and previous history. What would be thought of the surgeon who directed all operations to be performed at stated periods, without regard to symptoms or necessity?”

To support this allegation, Dr. Collins has quoted part of a paragraph, and has totally suppressed my very minute directions for distinguishing the cases belonging to the different orders of laborious labours.

So far from advising the junior practitioner “to be guided as to the safety or otherwise of his patient, when in labour, by the number of hours,” thus asserted, and strongly commented upon by Dr. Collins, I have in the plainest language remarked (Practical Observations, Part II., pp. 45 and 46), that “when labour is protracted beyond twenty-four hours, it is the first duty to ascertain how long it may be safe to trust to the natural powers, or, in other words, to decide whether the case should be classed under the *first*, or *second*, or *third* order of laborious labour. For

this purpose, the previous history of the patient,—the duration of labour,—the situation of the infant's head,—the apparent effect of the labour throes,—the condition of the passages,—and the state of the general system of the woman,—must be severally taken into deliberate consideration."

The very same page (46) contains the following sentence:—"The *duration* of labour is the great mark by which it is usual for the patient and attendants to consider that artificial assistance is required. But this is a *most fallacious* test, for several reasons. As spurious pains not unfrequently precede real ones, even in a first pregnancy, and are common occurrences in women who have had a family, it may be supposed that the patient has been three or four days in labour, when perhaps she has not been as many hours; besides, some individuals suffer little from a considerable protraction of labour, as the records of the great Lying-in Hospitals upon the continent and in Dublin amply testify. The *duration* of labour, therefore, is only to be considered as a *collateral circumstance*."

With respect to the assumption itself, Dr. Collins's opinion is very different from mine. He says (Practical Observations, p. 17), "The difficulty in such cases is caused by a disproportion between the child's head and the pelvis, and except where this is very great, no individual can foretell whether the uterine action may be sufficient or not to expel the child. Therefore, the most certain proof we can have of such disproportion existing, is the head remaining stationary for a number of hours after the dilatation of the mouth of the womb, uterine action continuing strong. This is a more certain proof than any derived from the most accurate examination, for though in this way we may be able to inform ourselves, with tolerable correctness, as to the size of the pelvis, yet the size of the child's head, its degree of ossification, or the amount of compression it may undergo from uterine action, never can be correctly ascertained. Let it be carefully recollected, at the same time, that so long as the head advances ever so slowly—the patient's pulse continues good—the abdomen free from pain on pressure—and no obstruction to the removal of the urine—interference should not be attempted unless the child be dead."

In alluding to this opinion of Dr. Collins (Practical Observations, Part II., page 103), I have referred to the melancholy case of the Princess Charlotte, which I have brought forward as a striking illustration of the bad effects of the protraction of the first stage of labour, and I have stated that an account of the particulars of that case is recorded (as I believe, on the authority of Sir Richard Croft himself,) in the 8th vol. of the London Medical Repository, Monthly Journal and Review.

That account bears, that "no consultation was at this period necessary," (viz., when Dr. Sims arrived at Claremont), "*as the labour was evidently advancing, though slowly*; but on hearing the statement of the situation of the Princess from Sir Richard Croft, Dr. Sims concurred that every thing should be left to nature. The labour continued to be slowly progressive, the pains being such as to tend to forward the birth rather by moulding the head so as to admit of its easy passage, than by forcible expulsion."

Presuming that the particulars of this case were notorious, I have asserted, as quoted by Dr. Collins, that the plausible rule of delaying interference as long as the head of the infant advances ever so slowly, did, in that case, lead to the most fatal event. The context plainly implies, that my opinion is, that although no untoward symptoms may take place, the protraction of labour beyond a certain period must be injurious.

Dr. Collins asserts, p. 53, Dublin Medical Journal, No. XXXI., that I have given a most *distorted view* of his practice in the above quotation. This is, indeed, an extraordinary allegation. In page 159, Part II., I have quoted the full paragraph, beginning with the words—"The difficulty," and ending with the words—"unless the child be dead."

While my respect for Dr. Collins leads me to refrain from any captious objections to his precepts, my duty to the profession compels me to say, that the above directions for distinguishing laborious labours (Practical Treatise, p. 17) not only are calculated to mislead young practitioners, but also are proved by the cases which occurred in the Dublin Lying-in Hospital, which I have to notice by and by, "to be fraught with danger, both to the mother and to the infant."

They cannot fail to mislead the young practitioner, because they convey no other specification of the number of hours during which it may be safe to allow the labour pains to proceed (although there be no actual advance of the infant) than “the pulse continuing strong—the abdomen being free from pain on pressure—and there being no obstruction to the passage of the urine;” all which conditions or circumstances occurred in the case of the Princess Charlotte, and every body knows the event.

Dr. Collins must be well aware that it is the bounden duty of a practitioner, not only to alleviate the sufferings of child-bearing, but also to prevent the occurrence of any circumstance which may endanger the present or future health of the patient. And yet it is evident, from the recorded cases of laborious labours which occurred during his mastership of the Dublin Lying-in Hospital, that he has not taken into consideration *the effect of protracted pain*. If he had looked into Mr. Travers’s interesting Inquiry concerning that disturbed state of the Vital Functions, usually denominated Constitutional Irritation, he would have found (page 65) that “pain, when amounting to a certain degree of intensity and duration, is of itself destructive. *Difficult and protracted parturition is every now and then fatal from this cause.*” Several of the cases detailed by Dr. Collins strongly confirm this most important practical remark.

In illustration of my objections to Dr. Collins’s rule, I referred (in the Second Part of my Practical Observations) to several of his recorded cases, and I find that in doing so I had committed a gross error, for which an apology is due. This error, which was most unintentional, can be readily accounted for. I had made a memorandum of all the cases (in his work) in which it appeared to me that there had been an injurious delay in affording assistance, and I had afterwards selected the cases where there had been disproportion, but I had forgotten to mark off these latter. Unluckily, therefore, both lists were printed, the original one in page 100, and the selected one in page 162. Under the hurry of my professional duties, this and several other typographical errors were overlooked. That there may be no mistake, I now quote, in Dr.

Collins’s own words, the following cases, in the conviction that they establish the validity of my first assumption, and that at the same time they show the injurious effects of Dr. Collins’s rule:—

“(A.) Page 158, No. 126. This woman was fifty-nine hours in labour; it was her first child. The pains were for a considerable time very trifling, with long intervals; however, for the last twenty-four hours the uterus acted with tolerable regularity, the pains being at times strong, causing the head to press with much force against the ischia, where it remained stationary for the greater part of that time. Her pulse was very much increased in frequency, varying between 120 and 130; the external parts were œdematous. As the foetal heart had ceased to act (having been distinctly audible in the right iliac region six hours before), the head was lessened and the crotchet applied. The placenta was expelled in 45 minutes, immediately after which, in consequence of hæmorrhage, the hand was introduced, and so it was arrested.

“Violent inflammation and sloughing set in, resisting all treatment, and she died on the ninth day. For four days previous she had severe diarrhœa, a succession of motions coming on suddenly, with extreme pain. She had also severe hiccough.

“On examination after death, the vagina was found in a state of slough; the sides opposite the spines of the ischia were broken through with the slightest force, and were completely gangrenous. A circular opening, the size of a shilling, was found, forming a communication between this cavity and the rectum, the mucous surface of which, as also that of the colon, was softened, and had in the vicinity of the opening a gangrenous appearance. There was no symptom of inflammation in the peritoneum or uterus.”

It is almost impossible to understand upon what principle, even of Dr. Collins’s own rule, this poor woman should have been allowed to suffer for the greater part of twenty-four hours, with the head pressing strongly against the ischia, and a pulse between 120 and 130, the external parts being œdematous. Could any other result than the death of the infant, and extensive sloughing and gangrene of the vagina, have been expected?

“(B.) Page 207, No. 21. A. B., after

having been nearly forty-eight hours in labour, was suddenly attacked with convulsions, for which she was bled to the extent of twenty ounces, with relief, yet the fits returned twice afterwards with violence. The pains from the commencement had been tardy and inefficient: for the last twenty hours the head had made but little progress; still it advanced slightly, and was pressing on the perinæum. It was so firmly impacted in the pelvis, and the pressure on the urethra was so great, as to render the introduction of the smallest sized catheter into the bladder impracticable, which was at the same time distended with urine. Her pulse was feeble and hurried, 136, and her strength much exhausted. The head was immediately lessened, and the child brought away by the crotchet. The placenta was expelled immediately afterwards, when she fell into a sound sleep, out of which, in about three quarters of an hour, she awoke in a severe convulsive paroxysm. She was now given forty drops of tincture of opium, which induced sleep, and she had no return of the attack.

"Abdominal inflammation set in next day, which, notwithstanding most decided treatment, proved fatal on the third day. Her friends would not suffer the body to be examined."

That the head of the infant in this case should have been allowed to be for many hours so firmly impacted in the pelvis as to render the introduction of the catheter impracticable, with a pulse at 136, feeble and hurried, with the strength much exhausted, and that, too, after the patient had had a fit of convulsions, requires no comment.

"(C.) Page 469, No. 303, was admitted, reported to have been three days in labour of her first child. The head was low and firmly fixed in the pelvis; the bladder greatly distended with urine, having been retained for thirty hours; pulse 140; tongue dry and white. The catheter was passed, and three pints of urine removed. *As the abdomen was free from pain*, it was thought *advisable* to watch the effects of uterine action for some time. After waiting five hours, during which the pains were pretty brisk at intervals, still the head made no advance; it was lessened and brought away with the crotchet. There was considerable exertion required to get down the shoulders.

The abdomen was much distended with air, the consequence of putrefaction. She died on the fourth day after delivery."

As there was emphysematous putrefaction of the infant, it is evident that it had died before the woman reached the hospital, and yet, although her pulse was 140, and her tongue white and dry, five hours were allowed to elapse before the poor creature's sufferings were relieved. Surely the stethoscope had not been employed on this occasion. The wonder is, not that she died on the fourth day, but that she lived so long.

"(D.) Page 462, No. 49. The patient was forty-eight hours in labour of her first child. Having made no progress for the last twenty-four hours, the pulse becoming extremely quick, with great general debility, the head was lessened and delivery effected with the crotchet. Considerable difficulty was experienced in getting the head through the pelvis, in consequence of the hand having descended with it."

An attentive practitioner could have certainly discovered that the head of the infant had descended with its head long before the lapse of twenty-four hours, and *long before the pulse of the patient had become extremely quick, with great general debility*, and certainly before the pressure had destroyed the infant.

"(E.) Page 464, No. 150, was forty-eight hours in labour in the hospital, the waters having been discharged a considerable time before admission. For several hours after she came in, the labour pains were neither severe nor frequent; however, the uterus afterwards acted well, and the head was forced so low as to cause the scalp nearly to protrude, when it remained stationary for twelve hours. The ear could be distinctly felt next the pubes, and there was sufficient room towards the sacrum to admit the introduction of the forceps with ease, yet in the transverse direction of the outlet there was evidently a diminution in size. It was thought, however, as the head was so low, by gentle assistance it might be got down; no force, notwithstanding, consistent with safety, was found sufficient. As the patient's strength was rapidly sinking, and the abdomen had become tender on pressure, delivery was accomplished by lessening the head."

Many remarks might be made on

this case, but I shall only observe, that any defect in the transverse diameter of the outlet is so readily and easily ascertained, that it seems to me most wonderful, that the poor woman's sufferings were allowed to proceed till the abdomen had become tender on pressure, and her strength had been rapidly sinking.

"(F.) Page 464 No. 173, was delivered with the crotchet after sixty-four hours labour, having made no progress for the last twenty-four; the child was evidently dead, and the pressure on the urethra was very severe. When brought away, it was large and putrid. This woman died on the thirteenth day after delivery.

"On dissection, a stricture of the intestine was found immediately above the sigmoid flexure of the colon. Several adhesions were observed between the liver and colon, apparently of old standing. In both cavities of the thorax extensive effusion had taken place, with a considerable deposition of lymph. The lungs were firmly adherent. The heart was extremely large and gorged with blood. Its parietes were thickened. The uterus was perfectly healthy and well contracted. The pelvis was considerably diminished in size, in consequence of a projection of the last lumbar vertebræ."

This case affords one of the strongest examples of the importance of ascertaining at an early period the dimensions of the pelvis. From inattention to this, the poor woman's life, as well as that of the infant, appears to me to have been sacrificed after a protraction of suffering of sixty-four hours' duration, and yet Dr. Collins seems to attribute the death to the stricture of the intestine.

"(G.) Page 469, No. 425, was fifty-eight hours in labour, for the last twenty-four of which the head made no progress, although the pains were strong during the greater part of that time; as the ear was within reach of the finger, the forceps were introduced, but no force, consistent with safety, was of the least service. The head was then lessened, and delivery accomplished with the crotchet."

Although no disproportion is alleged to have existed in this case, the forceps was used unsuccessfully; and no wonder, for the infant's head had been allowed to remain wedged in the pelvis for twenty-four hours, and had consequently occasioned swelling of all the parts lining that cavity.

"(H.) Page 470, No. 526, was reported

to have been twenty-four hours in labour before admission. About twelve hours after she came in, it was discovered that the face was turned towards the pubes, and pressing so strongly on the urethra, the catheter could with difficulty be passed. The pains continued strong for fifteen hours from this time, yet the head did not advance. It was deemed advisable to lessen it. This patient had been in the hospital thirteen months previously, and was then delivered with the crotchet of her first child, after a labour of three days."

Two facts are related in this case which fully establish my allegation, that in the Dublin Lying-in Hospital the patients were not always carefully watched from the commencement of the second stage of labour, and that the appropriate assistance was frequently too long delayed. It is admitted that twelve hours elapsed after this patient had reached the hospital before it was discovered that the face of the infant was turned towards the pubes, although she had been previously twenty-four hours in labour; and it is farther admitted, that fifteen hours were allowed to elapse before means were adopted to relieve the poor woman, notwithstanding strong pressure on the urethra, and strong pains too, and no advance of the head.

"(I.) Page 472, No. 639, was 48 hours in labour; it was her sixth child, all the former were born alive. The head, for twelve hours previous to delivery, made no progress, although the uterine action was at times so violent as to lead us to dread rupture. She complained of most acute pain in her right leg and thigh, and her pulse became hurried. The soft parts were well dilated, yet the ear could with difficulty be reached by the finger. The forceps were cautiously introduced, and considerable exertion was required to effect the delivery, the child being unusally large. It was still-born, though the heart's action was audible, a short time previous.

"Immediately on the birth of the child, most profuse hæmorrhage set in, requiring the instant introduction of the hand for the placenta, the greater part of which was found in the vagina. On its removal the discharge ceased, and by careful binding with compress, and the use of cold applications, there was no return.

"She was delivered on the 13th February; on the 15th she complained of tenderness of the abdomen, which was

removed by leeches and stuping. On the 16th she suffered from uneasiness in her stomach, and on the morning of the 17th, her pulse sank rapidly, and her extremities exhibited in the most marked manner the appearance of diffuse cellular inflammation, particularly the right fore arm. Her strength continued to fail, and she died the same evening, although stimulants and cordials were diligently employed.

"On dissection, the abdominal viscera appeared healthy. There was a slight blush of redness on the anterior surface of the uterus. The muscles of the body were in a remarkable state of decomposition, particularly those of the right fore arm, where they appeared in state of putrefaction. The blood was fluid in all parts of the body."

It is impossible, according to my opinion, to imagine a case which could more strongly demonstrate the fatal consequences of Dr. Collins's rule of practice now under discussion. It was the woman's sixth child, all her former children having been born alive. For twelve hours the uterine action was so violent as to threaten rupture, and yet it did not advance the labour. She had acute pain in her left leg and thigh, and her pulse became hurried; at last she was delivered by the forceps of a still-born infant. Can any practitioner believe that she could not have been delivered more easily (and safely too) several hours sooner? The infant might thus have been saved, and the poor woman's suffering shortened. That she had been in bad health previous to being admitted into the hospital cannot be doubted. But that should have been an additional reason for a more speedy delivery.

"(J.) P. 480, No. 1005, was admitted in labour of her seventh child. She had been delivered artificially in her previous labours, and had but one child born alive. She had been ill a considerable time before she was brought to the hospital, and in nine hours afterwards, there being no progress made, the pulse 132, her strength much exhausted, and the child dead, she was delivered by the crotchet."

That the pelvis was defective in this case can scarcely be doubted, and in my opinion the woman ought to have had premature labour induced on her between the seventh and eighth month. But under the circumstances, it appears most extraordinary that she should have been allowed to continue nine hours in labour

after the head had ceased to make any advance, and that with a pulse at 132, and her strength much exhausted, with evidence of the child being dead, before the appropriate means of delivery were had recourse to.

Having considered with great attention the preceding cases, my solemn conviction is, that in every one of them an attentive practitioner might have judged whether the labour pains tended to advance the delivery before the continued pressure on the infant's person had destroyed its life, and before the protraction of unavailing suffering had brought that of the mother into jeopardy.

As I fear that I may have already exceeded the fair limits within which discussions of this nature should be confined in your valuable publication, I must defer to another opportunity, what I have still to remark on Dr. Collins's objections to my doctrines on laborious labours.

I have the honour to be, respectfully,

Your obedient humble servant,

JAMES HAMILTON.

Edinburgh, St. Andrew Square,
23, July 4, 1837.

MEDICAL GAZETTE.

Saturday, July 22, 1837.

"Licet omnibus, licet etiam mihi, dignitatem
Artis Medicæ tueri; potestas modo veniendi in
publicum sit, dicendi periculum non recuso."

CICERO.

ON THE HISTORY

OF

SOME DISCOVERIES IN MEDICAL SCIENCE.

Our readers will have observed that some letters have lately been inserted in this journal on the subject of the discovery of the "reflex" function of the spinal cord, which is claimed by and usually attributed to Dr. Marshall Hall. We do not intend to assume a right of deciding the question of priority in this or in any other similar discovery; and we shall only detail it and another analogous instance to shew the facility with which, in the present rapid progress which some departments of medicine are making,

such coincident original observations may occur.

The history of this discovery is as follows :—In the end of the year 1832, a paper was read at the Zoological Society by Dr. Marshall Hall, in which were developed more or less completely those opinions which have since been established, regarding the existence of a peculiar function of the medulla spinalis, supposed to have been previously unobserved; that, namely, by which, on the application of excitants to sensitive nerves, subsequent motions of the muscles near, or at a distance from, the part excited, take place, without the intervention of sensation or volition—for the presence of the brain is not necessary. This principle he there shewed to be dependent on the medulla spinalis, on the removal of which, motions no longer followed the application of excitants, unless this were made directly on motor nerves, when the motions resulted simply from the irritability which they possess, independently of the influence of the nervous centres. In the same paper he pointed out that this phenomenon, which he called the “*reflex function*,” was that under whose influence the action of the sphincters, respiration, swallowing, and many other important operations took place.

In the same year Professor Müller, in perfect ignorance of the investigations of Dr. Marshall Hall, came to very nearly the same results, and published part of them in his *Physiologie*, in 1833. In a few particulars his conclusions were less distinct than those above mentioned—while in others they were more complete; as where, for instance, he shewed very clearly that the reflex function is not always exerted without the coincidence of sensation, though perhaps always independently of it. He gave to these phenomena,

too, a synonymous name, calling them “*reflected actions*.”

In 1833, Dr. Graves delivered a lecture at Dublin*, in which he also spoke of the same principle; and though he did not make the medulla spinalis its chief seat, he referred to it many of the phenomena which it really governs; and by a most remarkable coincidence he, too, employed the same term, *reflex*, to designate it.

Here, then, is one fact, or rather a general principle, governing some of the most important phenomena, almost coincidentally observed by three persons far distant from each other, and between whom no communication whatever had taken place; and even had imitation been possible, we are sure it will be at once allowed that the characters of the parties stand too high to permit the remotest idea that any one of them would take unworthy advantage of the unpublished investigations of another. But previous to this triply-fathered discovery, Mr. Mayo had written the following passage in his *Anatomical Commentaries*, No. 2, page 17, published in 1823 :—

“It is clear that an influence independent of the will occasionally throws voluntary muscles into action, as appears in tetanus and other spasmodic disorders; and is shewn remarkably in the physiological experiment of irritating the skin on the lower extremities, after the division of the spinal cord in the back, when the occurrence of actions limited to the muscles of the inferior extremities, evinces that a connexion exists, independently of the will, between sensitive surfaces and the action of voluntary muscles.” “The same influence may, then, possibly regulate the unconscious actions” (of respiration, expression, &c.) “to which these remarks relate.” And then follow observations which “leave the question undecided whether any muscu-

* See MEDICAL GAZETTE, June 24th.

lar actions exist during health, directly produced by an impression derived along the nerves, which is not a conscious or unobserved exercise of the will."

Can this be regarded as so clear an enunciation of the principle that any portion of honour should be taken from any one of the three gentlemen who lay claim to its full discovery, even if it were proved that they were aware of the existence of this passage? Is it much more explicit than the following from Glisson's *Tractatus de Ventriculo et Intestinis*, published in 1677:—

"Exempla irritationis per consensum inter fibras pure naturales frequenter quoque occurrunt. Fibræ enim nervos a communi origine petentes nonnunquam simul commoventur. Siquidem ramus nervi in fibras primo motas inserti, ejusque motus, continuatur communi alterius aut plurium nervorum origini, indeque per eas reflectitur ad fibras secundo motas, in quibus ad imitationem motûs primi, consimilem per consensum concitat*."

Here is certainly an important fact, referable to the reflective principle, laid down; and though the spinal cord, on which it depends, is not mentioned, it is clearly distinguished from the effects of common irritability (which he first recognized and described) and voluntary motion. The vision which this author (who, as Professor Clark observes in his Report on Physiology, was a century in advance of the age in which he lived) had of the principle, soon passed into a dreaming incoherence; for in the next sentence he compares the reflected motions to the vibrations of a cord produced by the sound of one of its harmonics. Yet the one fundamental fact is announced, and so clearly, that had Glisson been living, and of the temper of most modern observers, we should assuredly have had him as

an additional competitor for the honour reflected by this discovery.

Another remarkable example of confusion in claims to originality, occurs in the history of what are commonly called Sir Charles Bell's discoveries—a subject which may not be entered upon without caution, though it is to be hoped that sufficient time has now elapsed to close the wounds which the long and angry discussions upon it inflicted.

The dates and authors of many important observations were involved in this question, and we must consider each of them separately. The first was the fact, that the functions of different nerves are often different, and that each ultimate fibril, or original trunk, is destined for the performance of only one function, as sensation or motion, and is never fitted for the transmission of both influences. This, Sir C. Bell was certainly not the first to observe, though he first put the facts relating to it in an available form, and made them so clear, that they were never interfered with in the discussions, except to decide their author. It had been known to Galen*, Glisson†, Willis‡, Hunter§, Paletta||, Pouteau¶, and Bellingeri**, before Sir Charles Bell's papers were published; but it is certain that before his time it had never attracted general attention, and had not been made the foundation of any physiological or practical conclusions. No one of these writers appears to have been at all aware of the previous announcement of the fact; so that *at least* eight persons had observed it for themselves; and indeed, with respect to Sir Charles, Hunter's is the only work he was likely

* De usu Partium.

† Tract. de Ventriculo et Intestinis.

‡ Anatomia Cerebri Humani.

§ Observations on some Parts of the Animal Economy.

|| De Nervis Crotaphitico et Buccinatorio.

¶ Œuvres Posthumes, tom. iii.

** Dissertatio Inauguralis.

to have seen, and of which ignorance would be censurable.

The second point was the discovery of what the different functions of the two sets of spinal nerves really were. In this Sir C. Bell may now be said to be without a competitor. The only one who has pretended to it is M. Magendie, and this on the ground of his having first proved it experimentally; but his first experiments were published eleven years after Sir C. Bell's declaration in his printed but unpublished treatise in 1811, with which M. Magendie was undoubtedly acquainted; and they tended rather to obscure than to clear the subject, for he attributed a slight degree of motor power to the posterior, and of sensitive power to the anterior roots; while Sir C. Bell had always maintained that which is now clearly proved—the perfect separation of the two powers in the two roots.

If any merit is to be bestowed on another for having clearly proved by experiment that which Sir Charles had shewn from anatomy and pathology, it is due to Professor Müller, whose beautiful and perfected experiments on frogs are the first which have left nothing to be desired for complete demonstration.

The ideas of Bellingeri on this part of the subject, published in a dissertation many years after the printed treatise of 1811, above alluded to, though anterior to the communications made to the Royal Society, if they had ever by chance met the eye of Sir Charles Bell, could only have led him into error; for though they suggested, and might have led to a presumption, that the different roots of the spinal marrow had different functions, yet they contained the vague and absurd notion, that the anterior columns and roots were destined for flexion, and the posterior for extension; while sensation had its seat in the pos-

terior columns and the posterior part of the central grey matter.

The general law of the occurrence of ganglia in sensitive roots was entirely Sir C. Bell's discovery, as was also the analogy between the fifth and spinal nerves, in a physiological point of view, though Paletta and Prochaska had both detailed the anatomical analogy between them before his time.

But the functions of the nerves of the face were the especial field of battle: Bell attempting to carry out the analogy between the fifth and spinal nerves, went a step too far, and was led to attribute motor power to a larger portion of the branches of the former than really possessed it. He supposed the seventh to be entirely destined for the actions of the face connected with respiration and expression; while the infra-orbital, and infra-maxillary branches of the fifth, were the voluntary nerves of mastication. On this error in regard to the functions of the infra-orbital nerve, far greater severity was shown than it deserved: the one fault was made to taint the whole system, and argued on as if it were more important than the great principle clearly established, and of which it formed but one comparatively trifling example. He was corrected by three persons at least—viz. M. Magendie, Mr. Mayo, and Mr. John Shaw; who all proved that the portio dura was a voluntary motor nerve, and concerned in the motions of the lips in feeding, &c., as well as in breathing and expression; that the infra-orbital was purely sensitive, and that the infra-maxillary alone was the part resembling the spinal, being, after the ganglion, a mixed nerve of sensitive and motor filaments; the latter supplying, as Sir C. Bell had said, the masticating muscles of the lower jaw. A more correct anatomical examination of the

Gasserian ganglion and the motor root, afterwards confirmed the experimental evidence proving this.

In regard to the existence of a respiratory tract, this is "*not proven*." Müller has pointed out a very marked physiological relation between all the muscles supplied by the nerves Sir C. Bell supposed to arise from it, but it is not demonstrated that an anatomical relation exists between their roots.

Another point much agitated, but of minor importance, was the existence of sensation in the facial branches of the portio dura. At last it was decided that it possessed it in a slight degree; and then much surprise was caused by Eschricht proving it to be retained in the posterior branches even after the fifth had been divided within the skull. This was only lately shown by Müller to depend on a minute branch of the vagus—first discovered by Cuvier in the calf, and found by Arnold in man—which joins the facial in the Fallopian canal, a line from the stylo-mastoid foramen, and which, when irritated, gives indications of sensation after the division of the fifth, on which that property in most of the branches of the portio dura depends.

Such is the history of the discoveries and errors of Sir C. Bell in this important part of anatomy: we have entered into it at this length, because we know that many persons still entertain doubts as to the degree of credit which he merits for his investigations, and because it is full of useful lessons to all who are engaged in such pursuits with the hope of attaining the only reward which in this country they are likely to meet with—the unpaid honour bestowed on those who contribute to the stock of scientific knowledge. It is hard when even this inducement is removed or lessened, as the history of the present case would certainly tend to do, for the author of the disco-

very has never in this country received his fair reward. Lord Bacon translated his works into Latin, that he might have the satisfaction of learning, in the opinions of contemporaries abroad, what would be the estimation of them by his posterity at home. Sir Charles Bell may feel assured that our successors will value his observations as much as existing authors in other countries already do, and that the high eulogiums which he constantly receives from Germans, Italians, and at last even from the French, do but presage more warm praises from his own countrymen at a future day.

We might adduce numerous other examples from every department of medicine, proving the facility with which similar confusions in the chronologies of discovery are produced, but these are sufficient for our present purpose: we shall take an early opportunity of recurring to the subject, in order to point out some of the causes, and to suggest certain probable remedies for the evil.

BONAPARTE ON MEDICAL EDUCATION.

It is curious to observe the opinions of great men in matters foreign to their own immediate and proper pursuits, and the subjoined will therefore be read with some interest. The very circumstance of Napoleon, in the midst of his graver cares and conquests, having ever given to the subject of medical education so much attention as his remarks bespeak, is itself a very remarkable fact; as to the rest, we cannot say that we implicitly concur in them. The extract is from a volume recently published by Basil Hall, called "*Napoleon in Council*," and containing some curious illustrations of his opinions on a variety of subjects.

"With respect to the degrees given

by the University, that of Doctor ought not to be too readily bestowed. The candidates ought to be examined on the most difficult subjects—for example, on the comparison of languages; and it would not be amiss were they required to converse in Latin for an hour and a half. It is by no means necessary that all the world should be rendered eligible for a Doctor's degree; nor do I approve of the condition which requires that a Bachelor of medicine should first take a scientific degree; for medicine is not a positive and exact science, but one of observation and conjectures. For my part, I should have more confidence in a Doctor who had not studied the exact sciences than in one well acquainted with them. I preferred M. Corvisart to M. Hallé, because M. Hallé belongs to the Institute, whereas M. Corvisart does not know what is meant by two triangles being equal to one another! The student of medicine ought not to be disturbed in his visits to the hospital or the dissecting-room, or in his medical studies. Anatomy, though the least uncertain branch of the art, is still enveloped in darkness. We know neither why we live nor how we live, nor what the living principle is. To require, therefore, that a young man shall be versed in knowledge of such different kinds before he can enter upon his profession, is to risk losing the public services of the great men whom such a profession might turn out; for by a strange caprice in the structure of the human mind, it may well happen that a man may be a great physician, or a great jurist, who could never work a sum in compound division."

COLLEGE OF PHYSICIANS.

ADDRESS ON THE ACCESSION.

THE following address was presented at the Levee, on Wednesday last, by Sir Henry Halford, as President of the College of Physicians. The Queen was graciously pleased to signify that she, at the same time, received him as one of her Physicians in Ordinary.

MOST GRACIOUS SOVEREIGN,

We, your Majesty's most dutiful and loyal subjects, the President and Fellows of the Royal College of Physicians, approach your Majesty with a humble request to be permitted to min-

gle our sorrows with those of your Majesty and the nation, for the loss of a sovereign whose sole object in life appears to have been the conscientious discharge of his duty; and whether he obeyed as a subject or ruled as the King, who sought only how he should best promote the glory of his country and the happiness of his people.

From the recollection of a loss so universally and sincerely deplored, we turn with fond expectation to the contemplation of your Majesty's virtues. We know that your Majesty has been educated in the soundest constitutional principles, and in the pure doctrines of our holy religion; and we never can forget, that, in more than one instance, a gentle hand has held the sceptre of this kingdom with as firm a grasp as that of the most strenuous monarch.

We remember the obligations we owe to Queen Elizabeth, for establishing and maintaining the Protestant reformed religion, and we look back to Queen Anne's reign as one distinguished by literature, by arts, and by arms.

May your Majesty's reign, by the blessing of Providence, be a reign of peace and prosperity! May no anxieties interrupt your Majesty's health! and when it shall please the Almighty, at a very distant day, to exchange your earthly crown for a heavenly one, may your Majesty leave posterity as much indebted to your virtues as it has been to those of the wisest and most beneficent sovereigns recorded in history.

(Signed) HENRY HALFORD,
President.

FRANCIS HAWKINS,
Registrar.

R E P O R T

(PRESENTED TO BOTH HOUSES OF
PARLIAMENT)

OF THE

NATIONAL VACCINE ESTABLISHMENT.

To the Right Hon. the Secretary of State for the Home Department.

MY LORD,

A CONSIDERABLE time has now elapsed since we reported to the department over which your Lordship presides the successful labours of the National Vaccine Institution; and as, notwithstanding the manifest proofs which we have already presented of the valuable protection which

vaccination affords against the scourge of small-pox, yet, from indolence or thoughtlessness, many still forbear altogether, or delay until too late, to avail themselves of this great preventive, and others are induced by the acts of disreputable practitioners to continue to prefer inoculation: we think it necessary, therefore, to repeat in strong terms our sense of the advantages which the former has over the latter.

That vaccination has this superior merit, it might be a sufficient argument to convince the least considerate person, that if 300 children be vaccinated, one will be susceptible of small-pox afterwards, but only in a mild and perfectly safe form; whereas if 300 be inoculated, one will surely die.

To this argument we might add, that the annual loss of life by small-pox in the metropolis, and within the bills of mortality only, before vaccination was established, exceeded 5000; whereas in the course of last year only 300 died of that distemper; and it is probable that even this mortality, however comparatively small, is owing to the continued partial practice of inoculation, which is liable to disseminate far and wide its contagious influence, to the imminent danger of all who have not been protected by previous vaccination, or by having had the disease already.

And this consideration suggests to us a question, whether the introduction of inoculation into this county at the beginning of the last century was the public blessing which it claims to have been? We know that before the practice of it was brought from Constantinople, the small-pox used to prevail epidemically now and then, and to occasion a great mortality when it did prevail; but there were intervals in which the disease was scarcely heard of; and we really believe that the loss of life occasioned by the small-pox recurring after considerable intervals has been far exceeded by the accumulated mortality of successive years, in consequence of the disease being continually propagated through the practice of inoculation.

We have only to add, my Lord, that although we lament sincerely the mistaken judgment which prefers inoculation to vaccination, whether on the supposition, amongst other ill-founded notions of which we sometimes hear, that the original virtue of the vaccine virus has been worn out by time, or on any other equally ill-grounded opinion, we have the satisfaction of knowing that vaccination has made considerable progress since our last report, and that we have supplied lymph, not only to every part of this kingdom in the course of the last year, but to all the

colonies also, and to many of the capitals of Europe.

HENRY HALFORD,
President of the Vaccine Board.

ASTLEY PASTON COOPER,
President of the College of Physicians.

J. A. PARIS,
Censor of the College of Physicians.

CLEMENT HUE, Registrar.

National Vaccine Establishment,
July 6, 1837.

REQUISITES FOR OBTAINING A DEGREE IN PHYSIC AT CAMBRIDGE.

To the Editor of the Medical Gazette.

SIR,

It may be in the recollection of some of your readers, that a short time ago a correspondence took place in the *Morning Chronicle* between Professor Henslow, of this University, and Dr. Robert D. Thomson, the Editor of the *British Annual*, in consequence of some misstatement which appeared in that publication respecting the lectures delivered and other duties performed by the Professors at the English Universities. Dr. Thomson, in support of his assertions, quoted the evidence given by me before the Committee of Medical Education, and in so doing very much misunderstood my statements. I immediately wrote a letter to the Editor of the *Morning Chronicle*, with the view of correcting the erroneous impressions made by Dr. Thomson's letter; this, however, was never inserted in that journal. Being thus excluded from the opportunity of explaining myself in the publication in which the charge was made, I have to request that you will enable me to lay the matter fairly before the public, by admitting this communication in an early number of your widely-circulating journal.

The passages in Dr. Thomson's letter of which I complain, as affecting me personally, are the following:—

“Contrary to the statement of Professor Henslow, we are informed by Dr. Haviland that attendance on anatomy is not required for a (medical) degree.”

I certainly never said this, or any thing at all like it. In order to shew what I did say, I shall extract a portion of my evidence before the Committee of Medical Education, where I am supposed to have made the statement. See Minutes of Evidence.

“3864. On what subjects is it neces-

sary that the candidate for a degree should have attended lectures?—First of all he is to attend the lectures of the Regius Professor of Physic, which include the practice of physic, the elements of pathology, and therapeutics. He must also attend the lectures of the Professors of anatomy, chemistry, and botany; these are the only remaining subjects in which attendance on lectures is required.

3865. How many courses of lectures on each of these subjects must he have attended?—There is nothing said about the number of courses in the regulations. A large proportion of the students attend more than one course; sometimes two, and sometimes three courses.

3866. They must attend at least one course?—Yes; they must satisfy each Professor that they have attended his lectures diligently.

3867. Of what length, either as to time or number of lectures, must each of those courses be?—The Professors of anatomy and chemistry must each give a course of fifty lectures; the Professor of botany twenty. To the course of the Professor of physic there is no precise limit; my course, if complete, would consist of seventy-five lectures; but I never in one year exceed fifty lectures, besides clinical instructions at the hospital."

The other passage in Dr. Thomson's letter in which he appears to have misunderstood my evidence, is the following:—"Mr. Henslow affirms that the examination for a degree must satisfy the Professors that the candidate has a competent knowledge of those respective sciences—viz. chemistry, anatomy, medicine, and botany. Dr. Haviland, *on the contrary*, states (Evidence, p. 253) that on candidates keeping the exercises in the schools, the examination is quite at the discretion of the Professor of physic."

My evidence, as reported in the Minutes, is as follows:—

"3908. Who are the examiners of candidates for the degree of bachelor of medicine?—The several Professors.

3909. There are certain examinations, those in anatomy, chemistry, and botany, which are conducted by the Professors of those sciences solely?—Each in his own department.

3910. There is a general examination in the medical classics, and in medicine?—The Professor of physic is the sole examiner in these general subjects.

3919. How many, and what examinations are held on each successive day?—The usual course is, that the candidates are examined by the Professor of physic, on Monday, from two to three hours, in the morning generally.

3920. What examination is there in the evening?—None; the Professor of anatomy for the same time on Tuesday; chemistry and botany on Wednesday morning and afternoon; and on Thursday the Professor of physic again, with the classical papers; but I do not mean to say that this order is invariable," &c.

I had in another part of my evidence alluded to a *viva voce* examination in the schools, at the time of the public disputation, as altogether distinct from the written examinations; and being questioned about that, I stated that this examination was entirely at the discretion of the Professor who presides in the schools, as from its nature it necessarily must be; and this answer to a specific question has been understood by Dr. Thomson as giving a statement of the general mode of examination for the degree. It is very strange that he should have read that one passage only, without turning to what had preceded or followed it, and thus remain ignorant of the general bearing of the evidence.

Dr. Thomson has made another very extraordinary assertion in the same letter, viz. "No individual *can* be elected a Fellow of the London College of Physicians, unless he has graduated at the Universities;" and upon this he reasons as if ignorant of what I suppose scarcely another medical man in London is unacquainted with—I mean the changes which have taken place in the constitution of the College of Physicians within two or three years: not, however, that his statement would have been correct under the old laws of the College.

Dr. Thomson will now learn that the authorities here are so far from discouraging attendance on lectures upon scientific subjects, that they make such attendance a condition for obtaining a medical degree. The best proof of their earnestness in promoting the study of these subjects is to be derived from the facts of their recently having laid out a large sum of money for the purchase of a new site for the botanical garden; and of their having erected at a great expense, and at a time when the funds at their command were very confined, new lecture-rooms, &c. for the Professors of anatomy and chemistry, with a laboratory, &c.; and of their having purchased, only last year, at a great cost, the splendid collection of anatomical preparations, &c. of Dr. Macartney, the distinguished Professor of anatomy of Dublin University, which they have placed in a new museum worthy of the collection itself.

Were it necessary, many other facts might be adduced in confirmation of this

statement; but I fear that I am trespassing on your limits, and must conclude.

I am, sir,
Your faithful servant,
J. HAVILAND.

Cambridge, July 12, 1837.

IRISH MEDICAL CHARITIES' BILL.

To the Editor of the Medical Gazette.

SIR,

THE surgeons of the Dublin College exclaim against physicians having the sole charge of county infirmaries, whilst the real question is not whether a physician or a surgeon is the best officer of such institutions, but whether it is preferable to have a physician and also a surgeon, or the latter only—not for the good of the College, but of the poor, and of those by whose contributions the poor are relieved.

There are, perhaps, few offices comprehending a more unpleasant responsibility than that of the newly-elected surgeon of a county infirmary. He is usually a junior one, who has scarcely in his life performed a capital operation. He is deprived of the advantages which the experienced surgeons of metropolitan hospitals derive from the assistance of colleagues. He is, in the moment of danger and difficulty, left to his own resources and the aid of an apprentice, or at any rate of some professional visitor, probably less experienced than himself. What, then, ought to be the qualifications of the surgeon having the appointment to a county infirmary in view? The answer will be, "such or such a diploma." This is, however, comparatively a matter of form. Having obtained the legal right to practise, he ought to lose no time in qualifying himself in the operative and mechanical part of his profession, in order to be able to discharge his duty when the care and cure of the maimed and wounded will depend on his individual competency. He ought, at least, to see every operation performed within his reach, practise every operation on the dead body at some dissecting-room, from time to time, and learn the best mode of applying and repairing (as surgeons' instrument-makers are not to be had in country towns) trusses, splints, and other apparatus: nay, if opportunity offer, the county infirmary aspirant ought to engage in military or naval service, and there acquire nerve, presence of mind, and manual dexterity; without which he is unfit for the management of a

surgical hospital, at least without colleagues to assist him.

Now what young surgeon thus sedulously, laboriously, and laudably qualifying himself for the honourable situation that he has in his eye, will find time also to, I will not say obtain a *pro formâ* medical degree, but acquire the experience necessary to constitute him the safe sole physician of a fever hospital, or other medical establishment? The requisites for this office are not less numerous or important than those for that of the hospital surgeon, although not of precisely the same nature. An acquaintance, from personal observation, with the mode of invasion and the course of epidemics, and with their prevention and treatment, and a knowledge of medical statistics, may be enumerated among the many indispensable qualifications of a county infirmary physician, who has to render to an entire district the services, the responsibility of affording which is in cities divided among many individuals. Now which of these two systems of preparation for the efficient discharge of his future duties is the medico-surgeon to neglect?—this is in itself enough, and more than enough, to occupy the time of one man.

The question, then, is, whether in an overstocked profession, affording many persons able and willing to qualify themselves for each of the above offices of physician and surgeon, it would not be better for the poor, and those who maintain them by their contributions (I do not say for this or that College), that inducements should be held out for the attainment of this desirable object? I fully admit that at one time the paucity of competent practitioners was such as to render the union of offices in any one that might be found highly desirable; but it is unnecessary to say that that time exists no longer, and that the medical attendants of county infirmaries could be multiplied by ten, if requisite, without those newly appointed being inferior to their predecessors and colleagues. On what grounds, therefore, is the practice so universally and advantageously adopted in every city or large town in Great Britain and the Continent, to be laid aside in those very districts where any deviation from the very best system must, from the great individual responsibility imposed on the practitioner, be attended with greater injury to the poor? If the rich, who are taxed to relieve the poor, are to be considered, is it not better for them that two competent practitioners should reside in their vicinity than one?

Perhaps it will be said that surgeon A. or surgeon B. is an excellent practitioner.

But legislation is to be based not on the exception but the rule; and the question is not what might be the result if surgeon A. or surgeon B. were appointed to the infirmary, but whether it is likely that a man of junior standing and moderate attainments, attempting to compensate for want of experience by preparatory practical exertion, will be a better physician if applying himself to the practice of medicine only, or if engaged also in (what surgeons term) the more important and laborious department of surgery.

I am, sir,
Your obedient servant,
M. D., T. C. D.

July 15, 1837.

ON THE NATURE OF MUCUS, AND DISCHARGES FROM THE URINO-GENITAL ORGANS.

M. AL. DONNE' has lately published an account of some interesting microscopic researches as to the nature of mucus and the different discharges from the urino-genital organs. He has been led by them to the following conclusions:—

1. The pus of urethral gonorrhœa appears to be the same both in men and in women; it is alkaline, and presents the appearances of common phlegmonous pus. It contains no animalcules.

2. The pus from chancres of the glans and of the vulva is alkaline. Its globules are less clear than those of other pus. It is also alone capable of producing true pustules and chancre by inoculation.

3. The sebaceous secretion of the prepuce is alkaline. No animalcules are developed in the pus formed by the application of a blister to the glans of a non-syphilitic patient.

4. The pus of buboes is alkaline, and never contains animalcules.

5. The mucus of the vagina is in its healthy state acid, and composed of pellicles of a peculiar form. It never contains animalcules unless in an unhealthy state.

6. The discharges from the vagina are either simply mucous or are purulent.

7. Mucous discharge constitutes *vaginitis*, or vaginal leucorrhœa. It never contains any animalcules.

8. Purulent discharge constitutes vaginal gonorrhœa: in it are found the new animalcules which M. Donné has described under the name of *Tricomonas vaginalis*.

9. The acidity of the vaginal mucus, and the presence of animalcules in it, perhaps contribute to diseases of the neck of the uterus.

10. Uterine mucus is always alkaline; which distinguishes it from that of the vagina. In its healthy state it is not opaque and presents no globules: in affec-

tions of the neck or body of the uterus it becomes muco-purulent, but never produces animalcules.

11. Balsam of copaiba and cubebs, mixed with butter or chocolate, may be administered with advantage in gonorrhœa, in the form of solid cones introduced into the rectum.

CONFERVA VEGETATING ON THE LIVING AND HEALTHY MUCOUS MEMBRANE.

MAYER says he has discovered a species of Conferva belonging to the family Fungoidie, of Agardh, genus *Hygrocrosis*, growing in the mucous membrane of the large intestine of the common Cockroach (*die Schaabe*), *Blatta orientalis*, and sometimes in that of the river craw-fish. If a piece of the mucous membrane be doubled so that its edge may be seen beneath the microscope, one finds on it homogeneous conferva-like filaments, fixed on it exactly as the minute algæ are found growing on the stems of the larger and older Vancheriæ. These filaments are in proportion to their breadth, and project into the mass of fæces, with which the large intestine is filled, and in which, with innumerable infusoria of various sizes, portions of this vegetable may be found. They must not be confounded with the true hairs which grow from the mucous lining of the upper portion of the intestinal canal of this and other animals (*Repert. Hft. ii.*, p. 115). The filaments are so minute, that it is not easy to discern their minute structure, but it may be seen that each consists of a number of short round sections, which appear to contain some dark matter. He names the species *Hygrocrosis intestinalis*, and gives it the following specific characters:—"Fila simplicia, tenuissima, perlonga, articulata, serpentina, apice recta, moniliformia, articulis globosis. Habit in superficie interna membranæ mucosæ intestini crassi *Blattæ orientalis*, in intestini recti *Astaci fluviatilis*." He remarks on the above facts as pointing out another analogy between digestion and fermentation, the acetous fermentation being, as is well known, particularly favourable to the development of Fungi, and the Fungoid Confervæ.—*Valentin—Repertorium für Anatomie und Physiologie.* Bd. i., p. 119.

INTRODUCTION OF AIR INTO THE VEINS DURING OPERATIONS.

ON the 4th of July M. Amussat communicated some observations to the Académie de Médecine on this subject, and detailed the method which he had found successful in preventing the fatal effects of its occurrence. He was operating, on the 1st of this month, on a woman aged 47, from

whom a schirrous affection of the right mammary gland, and subjacent and surrounding tissues, required to be removed. He had taken away all the right breast, and the adjacent parts implicated in the disease, and was tracing and cutting it away towards the opposite side, when suddenly, on making an incision into some suspected granulations on the inner side of, and below the left clavicle, he, and three other surgeons who were assisting him, heard a sudden, distinct, interrupted sound, as of air passing into a cavity through a narrow opening. The patient immediately felt a sensation as of suffocation, and said she was dying. A second sound like the first, and following it at a brief interval, left the operator in no doubt of the nature of the accident, and he placed his finger on the spot from which the sound proceeded. The patient was more impressed with a sense of impending death than before; a cold sweat covered her face; her eyes were directed upwards; and all round her thought her dying. M. Amussat thought now of trying the effect of pressure on the chest to force out the air from the vein, whose orifice was uncovered. He accordingly compressed the whole chest very firmly several times, and then made an assistant press on the spot from which the sound had proceeded. After a few minutes the patient became much better, her anxiety diminished, and the operation being completed as soon as possible, a portion of the tissues around the situation of the open vein was tightly tied up with a ligature. The patient has gone on perfectly well since the operation, and there is every reason to anticipate her complete recovery.—*Gazette des Hôpitaux*, Juillet 6, 1837.

MAGDALEN HOSPITAL.

On Thursday, the 13th instant, Dr. Burne was elected Physician to this institution, in place of Dr. Cholmeley, deceased.

BOOKS RECEIVED FOR REVIEW.

On a New Mode of Treatment employed in the Cure of various Forms of Ulcer and Granulating Wounds. By Frederic C. Skey, F.R.S., &c.

An Introduction to Medical Botany: comprehending the Elements and Glossology of Botany; the Linnæan, Artificial, and Natural Systems; the Natural System of Jussieu; and several comprehensive Tables of the Properties, Uses, and Doses of Medicinal Plants. Illustrated with coloured figures. Third edition. By Thomas Castle, M.D., F.L.S., &c.

A Popular Treatise on the Physiology

and Diseases of the Ear, containing a New Mode of Treatment of the Deaf and Dumb, &c. By William Thornton, M.R.C.S.L.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, July 20, 1837.

John Durancé George, of Romsey, Hants.—Henry Ashton Meeson, of Grays, Essex.—David Unwin, of Coggeshall, Essex.—George Saunt Archer, of London.—William Henry Walker, of London.—William Carr, of Leeds.—Samuel Ellis, of Birmingham.—George Alexander Falconer.—William Henry B. Winchester, of Devonport.—John Lee Nicholson, of Manchester.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, July 18, 1837.

Abscess	1	Heart, diseased	4
Age and Debility	25	Hooping Cough	6
Apoplexy	4	Inflammation	28
Asthma	2	Lungs and Pleura	1
Childbirth	1	Influenza	1
Consumption	31	Liver, diseased	3
Convulsions	25	Measles	10
Croup	1	Mortification	2
Diarrhœa	3	Paralysis	4
Dropsy	6	Rheumatism	1
Dropsy in the Brain	6	Small-pox	2
Fever	14	Thrush	1
Fever, Scarlet	4	Unknown Causes	1
Fever, Typhus	6		
Hæmorrhage	1	Casualties	3

Decrease of Burials, as compared with }
the preceding week } 30

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

July.	THERMOMETER.	BAROMETER.
Thursday . 13	from 39 to 73	29.78 to 29.75
Friday . . 14	47 75	29.73 29.76
Saturday . 15	47 74	29.81 Stat.
Sunday . . 16	41 67	29.86 29.93
Monday . . 17	40 73	29.93 29.90
Tuesday . . 18	47 69	29.82 29.77
Wednesday 19	47 74	29.77 29.74

Wind, S.W.

Except the mornings of the 16th, 17th, and 19th, generally cloudy. Very heavy showers of rain at times. Thunder and lightning on the afternoons of the 14th and 16th.

Rain fallen, .605 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

The letter of Dr. McCune Smith, on the Treatment of Gonorrhœa by Nitrate of Silver, and in reply to Mr. Bell, has been received; but as the discussion has already proceeded as far as our readers generally can follow it with interest, we must decline to publish any thing farther on the subject except *extra limites*—the author defraying the expense.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, JULY 29, 1837.

ABSTRACT

OF

LECTURES DELIVERED BEFORE
THE COLLEGE OF SURGEONS,

In April 1837,

By PROFESSOR STANLEY.

LECTURE VI.

ON THE PECULIAR AND SPECIFIC DISEASES OF BONES.

THE effects of inflammation of bone having been examined, the subject next in order is its specific and peculiar diseases. In a former lecture Mr. Stanley had remarked on the fact, that the diseases occurring in bone are more numerous and various than those of which any other tissue or organ of the body is the seat. In the present lecture it was his intention to consider some of the most important, for time would be altogether insufficient for the description, even in the most brief form, of all of them.

To most of the terms by which these are usually designated, there are the strongest objections; for instance, *Mollities Ossium* expresses but a singular character occurring in diseases of bone, viz. its softness; and this may be met with in very different conditions, as in the condition described in a former lecture frequent in old age, when, with a deficiency of both the animal and earthy solid constituents, an abundance of oil is diffused through the whole texture; or it may be the consequence of an entire removal of the proper constituents of bone, and of the deposition in its place of some peculiar morbid product, as in a specimen exhibited, which had been preserved by Mr. Hunter; or, again, of simple deficiency of earthy matter, as in common rickets. So also with the term *Fragilitas Ossium*, implying simply the brittleness of bone, which might result from a variety of changes—

504.—xx.

as from those occurring in the progress of age, where the relative proportion of earthy matter becomes excessive, and the tissue grows more fragile; or from morbid action occurring in some part of the interior of a bone, causing absorption of its walls, which become gradually more and more thin, till by a slight force, perhaps an effort of muscular action, they give way. Such is the history of many of the spontaneous fractures occurring in the humerus or femur, preceded by sharp or long-enduring pain, usually regarded as rheumatic. In some of these cases there is good reason to believe that the morbid action by which the changes that led to the fracture were induced, had its origin in the syphilitic poison; while in others it was evidently the result of the advanced stage of cancer, which commenced in the mammary gland. And here it seems worthy of remark, that many of such fractures have united in the time ordinarily required for the union of a similar fracture occurring under other circumstances, which is not what might have been expected, when it is considered that a morbid change in the structure of the bone had preceded the fracture.

It might be presumed that it would be easy to establish a division of the peculiar diseases of bone into two classes, according as they were similar to those affecting soft parts, or had no parallel in the diseases of soft parts, but were entirely peculiar to the osseous tissue; but such a division is not well capable of being established. To take, for instance, rickets, usually regarded as an affection peculiar to the osseous system. A closer attention to the subject, however, inclined Mr. S. to a different view of it. The muscles surrounding the soft ricketty bone are pale and flabby, and from the comparison of the analyses of the muscular tissue at different periods of life, and in different orders of animals, it might be considered certain that the

muscles of the rickety subject would contain less than their natural quantity of fibrine. So it is probable that the deficiency of phosphate of lime, the characteristic of the rickety bones, is the result, not of peculiar local action, but of a general and constitutional deficiency of assimilation and nutrition, by which the peculiar character of the muscular tissue is coincidentally produced. So, too, with reference to osseous exostosis, this can hardly be regarded as a disease peculiar to the osseous system, for in many cases it is possible to trace its connexion with a defective action of the kidneys, whereby the proper quantity of phosphate of lime not being eliminated from the system, the blood becomes surcharged with that principle, and the vessels deposit it on slight exciting causes, not only in the bones but in various other parts of the body. In the remarkable case related by Mr. Abernethy, the patient's arms were pinioned to his sides by osseous matter deposited along the muscular margins of the axillæ; and in a case related by Mr. Hunter, bony tumors grew from the lower part of the femur, and the limb was in consequence amputated: but as soon as the stump began to heal, difficulty of breathing came on, and the patient soon died. On examination it appeared that a kind of metastasis had taken place, a large mass of bone having been deposited in the pleura costalis, and the lungs having become almost solid bony masses. [The preparations, of which the above description was given in the Catalogue, were exhibited.] A skeleton of a man, aged 39, was also shown, in which numerous osseous exostoses had formed in different situations, especially in the course of the muscles and at the insertions of the tendons, and in which many of the larger joints were ankylosed by osseous matter deposited on their articular surfaces.

The explanation of such cases must be, that it is a constitutional affection manifesting itself chiefly in the osseous system, because it is the habit of action of the vessels of that system to secrete earthy matter; and hence, as the osseous exostosis consists simply in an excessive deposition of earthy matter, it is found on analysis to contain the same ingredients as healthy bone, only differing in their relative proportions according to the hardness of the tumor. Dr. Bostock had kindly analysed such an one, and had reported that it differed from common healthy bone only in containing a slightly smaller relative quantity of animal matter and of carbonate of lime: and, moreover, the minute examination of these tumors has shown that their organization differs in no respect from that of common bone.

A nearly corresponding condition of the system is that which sometimes occurs in old age as a natural change. In many old persons, probably from the peculiar condition of the blood, there seems to be a great disposition to the deposition of bone in many parts of the body, as in the coats of the arteries, and especially on the front of the spine, ankylosing the vertebræ in the back and loins, and rarely in the neck.

Specific disease in bone occasions one or both of two effects; either irregularity of action—it may be excess or defect—in the secreting or absorbing vessels, or deposition in a fluid or solid form, of any of the various morbid products that occur in other parts of the body. The first and best illustration is the condition of the scrofulous bone, in which there is a total absence of earthy matter; the animal framework of the bone being left, and having deposited in its cells the peculiar morbid matter of the same kind as that found in the scrofulous absorbent glands.

If it be true, as it seems reasonable to believe, that an oily matter—a medullary fluid—pervades the whole, even the solid tissues of a bone, it is easily explicable how, by the modification of this fluid oil, the alterations of the colour of bone are produced, so that, while it preserves its vitality, it might be white or yellow, or present a totally different hue from that of health.

And with this alteration of colour there may exist alterations of density; the bone may be harder or softer than in health, as the earthy matter is increased or decreased. As an illustration, a portion of a spine was produced, where several of the bodies of the vertebræ were of much harder texture than natural, and of a deep yellow colour. This specimen seemed to prove further the existence of more varieties in the nature of the diseases of the spine than are generally supposed to exist; instead of being soft, like the common scrofulous bone, in this instance the bone was hardened and condensed, from the increased quantity of earthy matter.

To state what are the morbid products arising in bone, would be to enumerate all the varieties of them that occur in all the organs of the animal body, allowing for modifications from the difference of the structure in which they are placed. It may be sufficient to enumerate the more marked and best recognised morbid products in bone, both fluid and solid. Some of these arising within bone, and confined to its limits, are unattended with tumor; but the majority present themselves as tumors, to the diagnosis and surgical management of which the attention should be earnestly directed.

With respect to the designations of

these tumors, it will be sufficient to shew their frequent insufficiency. To mention the most usually employed, Osteo sarcoma—a generic term under which are included a number of most dissimilar varieties, which cannot all be expressed by it, if it be taken according to its common meaning, as implying a mixture of bone and flesh; for in the cerebriform tumor it often happens that there is an entire deficiency of osseous matter, either in the form of granules or of fibres.

It might be possible to found an arrangement of tumors upon the most prominent and distinctive characters of their chief constituent; but it would fail to include some of the most rare forms, and some of the least frequent combinations of morbid substances occurring in them. When, from the advance of pathology, morbid productions can be arranged according to their anatomical structure, or their chemical composition, instead of referring to the mere distinctions of colour and consistence, a scientific arrangement of the complicated and varied forms of tumor of bones may be formed. But till this is possible, it must be enough to enumerate the several kinds of morbid deposits found in the tumors of bone, and to give a distinct history only of those which are important by their uniform progress, their frequent occurrence, or any important practical or pathological observations which they may serve to illustrate.

The first variety which comes to be noticed is that called osseous exostosis, in which the tumor consists entirely of bone, or of so large a proportion of it, that at first sight, and in all external qualities, it would seem to consist of it alone. Osseous exostosis occurs most frequently in young persons, but less frequently before than after the age of ten or twelve years. It may grow from any bone, and from any part of it: it is often found at the insertion of tendons, especially at that of the triceps into the inner condyle of the femur, and of the psoas and iliacus into the trochanter minor. The bones of the face, too, are frequently the seat of it; and in old persons the bodies of the vertebræ often present exostoses in the form of knobs or bridges of bone, which, uniting the vertebræ, prevent any yielding of the fibro-cartilages. An exostosis may arise from the periosteum, or from the surface of a bone, or from its cancellous texture. When originating from the first of these situations, it may at first be readily separable from the bone, but afterwards may become united to it by osseous, cartilaginous, or dense fibrous tissue. When arising from the surface of the bone, it has at first an immediate covering from the periosteum, but this soon becomes absorbed, and then a dense

cellular tissue forms its investment. And lastly, when it arises from the cancellous texture, it will gradually extend, and make its way through the walls of the bone and periosteum.

With respect to its physical characters, an osseous exostosis may have the whiteness and density of ivory, or it may be dark coloured, and of a cancellous texture throughout, or it may be made up of a mixture of two such tissues; and again, there may be some cartilaginous matter in it, which may be deposited interstitially with the bone, or may be limited by a well-defined line to one part of the tumor, and this is usually the base, which may be moveable on the bone from which it has arisen. This diversity of texture has no relation to the size or duration of the tumor.

These tumors vary much in their outward form: some are smooth; others have an irregular surface; some are attached by a neck or pedicle; others have a broad base; or there may be two or three separate points of attachment. When the surface is smooth and the base broad, they are not readily distinguishable from partial thickening of the walls of a bone, the result of chronic inflammation.

There is no limit to their size, and they sometimes grow irregularly, remaining stationary for a considerable time, and then again increasing: several may grow at once in the same individual, either on the same bone or on several. As regards their chemical composition, Dr. Bostock has found that it differs from that of ordinary bone, in containing a smaller quantity of animal matter and carbonate of lime, and consequently a considerably greater proportion of the phosphate. The average quantity of animal matter in healthy bone may be taken at one-third, while in osseous exostosis it does not exceed one-eighth; and while the phosphate of lime constitutes about one-half of the entire healthy bone, or four-fifths of the substance left after calcination, in exostosis it constitutes at least nine-tenths.

Any cause of local irritation in the periosteum or in the bone may occasion the growth of a tumor of this kind: it may often be traced to a blow or other external injury. In other cases (as has been already observed) a peculiar condition of the system, in which the kidneys fail in removing the due quantity of phosphate of lime, seems alone sufficient to account for their production. The urine of the patient whose case, as described by Mr. Abernethy, has been before alluded to, was tested by Sir Humphry Davy, and found deficient in its relative proportion of phosphate of lime. In some cases a disposition to these growths seems to be

hereditary, as in that of a man who was in St. Bartholomew's Hospital with numerous exostoses, who said that his father had had similar bony tumors, and two of whose children Mr. Stanley had seen with them also—in one very numerously.

Osseous exostoses are not in themselves painful: the degree of inconvenience they produce will depend on their size and their relations to contiguous organs, as where a nerve lying in the neighbourhood becomes much irritated. When an artery lies in the vicinity, it may be so compressed that its pulsations cannot be felt at any distance from the tumor, and gangrene may ensue, from the obstruction to the circulation; and in short, whatever be its situation, the principal evil which such tumor will produce is always that of the obstruction it presents to the performance of the functions of the adjacent parts. When obstructing vessels, it will produce œdema or gangrene,—when irritating a nerve, convulsive motions or partial paralysis—the brain, epilepsy—the œsophagus, difficulty of swallowing, &c.; but as a general rule, no special inconvenience, except that resulting from its size, is produced by the existence of these tumors.

When a tumor is composed of bone, in the form of fine osseous fibres, mixed with a fleshy substance, firm and fibrous, or more soft, and approaching to the medullary character, it constitutes what has been called fungus ossium, or fungous exostosis. This is a tumor of by no means rare occurrence. In every specimen which Mr. S. had examined there was an altered condition of the surface of the bone from which the morbid growth originated: the surface of the bone was deprived of its periosteum, rough, and sometimes part of its substance had been absorbed, so as to form an excavation; and as all the cases hitherto examined had exhibited one or more of these changes in some degree, there could be little doubt of its being a growth from diseased bone. The osseous matter consists of a network of exceedingly fine bony fibres, easily yielding to the pressure of the finger. In a specimen shown from St. Bartholomew's Hospital, the fleshy part of the tumor was a firm fibrous substance, like the fibrous tumor of the uterus; but often it is quite soft and medullary. And again, there is found great variety in the relative quantities of the animal and earthy constituents of the mass, so that in one case, after maceration, the greater part of the bulk of the tumor will be lost, while in another in which the disease consists principally of osseous matter, it will retain its whole bulk, and, as far as the

osseous matter is concerned, all its characteristic form and appearance, even after prolonged maceration. This variety of tumor may grow to a very large size, as in an enormous specimen referred to at St. Bartholomew's Hospital, which had increased in size rather rapidly for four or five years, but the soft parts around are unaffected; the skin gradually yields to the distension, but is unaltered in structure. This tumor presents no characters by which it can be distinguished by external examination from others of bony hardness and resistance, which differ from it in internal structure; and the constant coincidence of disease in the bones from which it originates, is probably sufficient at any time to prevent the removal of the tumor alone.

The second variety to be noticed is the medullary tumor of bone, where the mass is composed chiefly of a soft brain-like substance. It is a disease of frequent occurrence, and usually originates primarily in the cancellous texture, and in the majority of instances, is not accompanied by a similar morbid deposit in other organs. Mr. S. had never seen a case in which the disease seemed to have originated in the compact texture, or the periosteum. It generally, though not always, occurs before the age of forty; and its most frequent seat is the head of the tibia, or the lower part of the femur. In only one case had it been seen to occur coincidentally in more than one bone; and in a large proportion of the cases in which amputation had been performed for it, there had been no recurrence of the disease in the stump or other part of the body. Sir B. Brodie had observed a case remaining perfectly well for four years after amputation; and Mr. Stanley had had one under his eye for two years, and many others for shorter periods, where the health had continued perfect. The general result of post-mortem examinations was such as to indicate a similar localization of the disease. The bodies of two patients who had died from constitutional derangement after amputation of limbs affected with the medullary tumor of bone, had been especially examined with reference to this point, by Mr. Stanley, but no trace of a similar disease could be found in any organ. In a similar case, however, Mr. Lawrence had discovered a medullary tubercle in the liver, and the inguinal glands contained medullary substance mixed with their natural texture. But, on the whole, there is sufficient evidence that medullary disease beginning in bone is less apt to occur coincidentally, or subsequently, in other organs, than when it has originated in the softer parts of the body, and that, consequently, its removal

by amputation may generally be undertaken with a fair probability of permanent benefit, though, of course, the prognosis must be given with caution and reserve.

A few varieties of the general appearance of this tumor may be mentioned; it is generally soft, pulpy, and white, like the foetal brain; but sometimes it has the firmness, elasticity, and slight yellowness, of the adult brain; sometimes it is mixed with a tough, solid, and fibrous substance; often with fluid or coagulated blood; sometimes numerous cells filled with a gelatinous matter, more or less tinged with blood, or with pure blood, are found in it; and sometimes, again, there are specks, or fibres of osseous matter, scattered through it.

Third variety.—Tumors composed of gelatinous substance of varied consistence, from semifluid to the firmness and density of cartilage. This variety is of slow growth, but often attains a great size; it may be in one mass, or divided by membranous partitions into numerous lobules. Sections present soft or firm surfaces of gelatinous matter, and sometimes various degrees of consistence in the same tumor. In the firmer parts the cut surface has a glistening semitransparent aspect, like the cut surface of coagulated albumen; in the softer it more resembles boiled sago. In the majority of instances the tumor seems to have originated in the interior of the bone; occasionally a number of small cells, or a large cavity filled by a glairy fluid, are found in its centre; and sometimes it is found surrounded by a thin osseous shell, covered by the unaltered periosteum, from the expansion of the walls of the bone in whose interior it has commenced.

Fourth variety.—A variety of tumor is occasionally found, which is made up of short and tough fibres of a white colour, firm and dense, and generally resembling a portion of healthy bone which has been softened by immersion in a mineral acid.

Fifth variety.—A tumor is found consisting of a highly organized substance of a light red colour, soft and spongy in texture, and presenting on a section an interior made up of dispersed minute cells. It is not rare—always appears to originate in the periosteum or surrounding cellular tissue—grows to a very considerable size, and is of a perfectly innocent character.

Sixth variety.—A fatty or lardaceous substance, dense and consistent, or deposited in granules, and mixed with bone. This in several particulars resembles the gelatinous; it grows slowly and without pain, and may attain a great size. It is usually lobulated on its surface, and so

firm as to be sometimes taken for osseous exostosis; it is more frequently found in the lower jaw, or femur, than elsewhere; may originate either in the periosteum or the bone, and in the latter case usually grows from the cancellous texture. On a section it appears greyish-white, or yellowish, and varies in density. Three distinct substances usually unite to form it, viz. the greasy or lardaceous matter—stout white fibres, like bone softened in acid—osseous matter, either in a large mass round the bone from which the tumor has grown, or in thin plates and fibres, intermixed with the other morbid substances; and of all these the relative proportions may vary considerably in different tumors, and in different parts of the same. This is malignant, an alteration in the texture of the bone often extending beyond the tumor.

Seventh variety.—A tumor is found composed of a soft, purple, and very vascular substance, like the spleen. The only specimen Mr. Stanley had seen originated in the lower jaw of a boy eight years old; it had separated the walls of the bone, and protruded into the mouth, presenting a fleshy, vascular surface, of a mottled, red, and purple colour, like some naevi. It produced no pain, and when removed, was found to consist of a fungus-looking mass, strongly resembling the torn substance of the healthy spleen. It had evidently grown from the cancellous texture of the jaw.

Eighth variety.—An albuminous substance, characterized by its density, grey or blueish colour, and having numerous white lines irregularly dispersed through it.

Ninth variety.—Carcinomatous tubercles are found in the substance of bones, but they do not grow here as original diseases, being generally the consequence of the condition following carcinoma in the breast.

Tenth variety.—Melanosis is also occasionally, though rarely, found existing in the bones.

Fluid of various kinds is often found occupying the whole, or various parts, of the tumor of bone; and either in small cells, originally existing in it, or in a single large cavity in its centre, produced apparently by some process of disorganization of the original substance. The character of the fluid may be serous or sanguineous—or thick, ropy, and gelatinous: it may be colourless, or of a green, yellow, or brown colour.

From the preceding brief description of the more important of the morbid deposits which take place in bones, so as to form tumors, an idea of their varied cha-

racter may be formed; and it shews that, with a few exceptions referable to the structure from which they arise, they resemble the analogous morbid productions of the other organs of the body. It is seen that they may arise from any of the tissues of the bones, and there is no uniform origin to any species; but it frequently happens that the same morbid action is carried on by the vessels of the periosteum and those of the medullary tissue at the same time, so that the same deposit is being produced coincidently in the interior and on the outside of a bone, affording another instance of that which has already been more than once alluded to, the consent in action between the periosteum and medullary membrane. And an important practical reflection is here to be made in regard to the insecurity of removing a tumor from the surface of a bone, which seems to originate in and be confined to the periosteum, seeing that there is not only a chance, but a considerable probability, of a similar affection co-existing in the interior. And again, error may arise as to the situation in which a tumor originally commenced, from the circumstance that occasionally one which has originated in the periosteum will produce absorption of the bone by its pressure, and form an excavation; in which being lodged, it appears to have grown from the interior of the bone.

It rarely happens that a tumor growing from bone is composed of the same substance throughout, two or more morbid deposits being in general united in the same tumor. One tumor may consist partly of a substance possessing all the qualities of cartilage, and partly of the soft brain-like substance of medullary sarcoma; another partly of ivory-like bone, partly of a soft fibrous tissue [as in specimens from the St. Bartholomew's museum]. Hence the exact nature of a tumor from bone is seldom indicated by its external characters, or by its history: the degree of consistence which can be ascertained by the former can only teach the composition of its external layer, while its internal substance may be of a totally different kind; and the latter will, of course, vary in coincidence with the changes in the nature of the several morbid matters deposited.

When a tumor growing from bone consists partly of soft matter, and in the rest of its extent of a dense osseous substance, the latter is usually found in the deepest part of the tumor, apparently growing from the surface of the bone. Under these circumstances the deposition of osseous substance may be merely the result of irritation of the periosteum, which,

under all circumstances of increased action, is so apt to produce bony matter.

Spontaneous fracture of a bone at the part around which a tumor has formed often takes place; this may be the result either of the tumor having in its growth produced absorption of the walls of the bone at that part, or of some morbid deposit taking place in its interior, by which the walls are thinned from within outwards, and so weak a state of the bone produced, that on the slightest violence being applied externally, or even by muscular action, it may be snapped across.

One other class of tumors growing from bone still remains to be noticed, and these deserve particular attention, not more from their peculiarities of structure than from the presence of a symptom which is very apt to lead into erroneous diagnosis, unless care be employed in the examination. These are pulsating tumors, whose occurrence is by no means unfrequent. Sometimes it is rather a slight thrill than a distinct pulsation, and is only to be felt in certain parts of the tumor; but in others the tumor has presented the deep heavy pulsation of aneurism. And so exact is the resemblance, and so similar is the tumor to an aneurism in all other respects, that Mr. Stanley had met with several cases where even experienced surgeons had been deceived, and had recommended, and in some instances had performed, the operation of tying the great artery, on which the aneurism was supposed to be seated. This symptom occurs in tumors of very varied character; the majority of those which Mr. Stanley had himself examined consisted of encephaloid matter; but one which originated in the humerus, and pulsated strongly, was composed of a firm gelatinous matter, which formed the walls of a cyst about half an inch thick, and containing serous fluid. In a case recorded by Dupuytren, growing from the tibia, the morbid structure consisted of cells containing a gelatinous matter. In some of those related by Scarpa and Dupuytren, the pulsating tumor consisted of a sac containing coagulated blood and layers of fibrine, resembling those found in an aneurism; and in the sides of the sac there were a number of dilated arteries, presenting open orifices, upon its internal surface. In these instances it has been supposed that the current of blood pouring from these arteries might produce the pulsation; but in the greater number of pulsating tumors growing from bones, no such change in the arteries can be found to account for

CLINICAL LECTURES,

DELIVERED AT THE

MEATH HOSPITAL AND COUNTY
OF DUBLIN INFIRMARY,*During the Session 1836-7.*

BY PROFESSOR GRAVES.

LECTURE XVII.

Supervention of other Diseases on Fever—Description of a peculiar Form of low Neuralgic Inflammation, not identical with phlebitis—Local Affections with Morbid Poison producing Cutaneous Eruption—Vesicles of Colles.

THERE is one fact connected with the history of fever which should never be forgotten by those who are occupied in its treatment: I allude here to the occurrence of sudden accidents, or the supervention of other diseases, producing a material alteration in the circumstances of the case, and leading to new and more alarming dangers. You should not divest yourselves of all further anxiety for the patient, or relax in your attentions, because the fever has exhibited a tendency to decline, and a favourable crisis has taken place: crisis may occur, and convalescence may be established, and yet the patient may relapse, or he may be struck down again by the unexpected incursion of a new and dangerous malady, or he may expire suddenly in the course of a few minutes. The functions of the brain and heart may suddenly give way, and death may take place unexpectedly and at once. Thus it not unfrequently happens that a patient during his convalescence falls into a state of syncope, from remaining too long in the erect posture, and if assistance be not promptly afforded, life is speedily extinguished. In the state of debility which follows acute and exhausting diseases, and where the patient is very liable to syncope, the most assiduous attention is required. During the epidemic of 1826, death took place under such circumstances in five or six instances, and the convalescents lost their lives from incautiously sitting up, or walking about the room too long, or attempting to reach the night-chair without assistance. There are many other causes capable of producing a sudden and alarming change in the state of convalescents from fever. One of the most obvious of these is error or excess in diet, which is apt to bring on a return of the fever in an aggravated form, accompanied by symptoms of gastro-enteritic inflammation, and sometimes terminating fatally in 48 hours.

this symptom. Mr. Stanley had examined two, and Mr. Hodgson two, with the view of ascertaining this point, but in both a negative result had been obtained.

In all the specimens which Mr. Stanley had examined, the walls of the bone were absorbed between the tumor and the contiguous large artery, so that on the outer surface of the tumor there were either no remains of the bone, or so thin a layer of it, that the impulse communicated by the artery to the tumor would be felt at every point of its surface. This was the character of five tumors which he had examined, and of seven which have been recorded in various works, in all of which extensive absorption of the walls of the bone is particularly noticed. And if to these be added the two cases by Mr. Hodgson, not yet published, there will be fourteen cases all agreeing in the circumstances of the tumor being contiguous to a large artery, and of the absorption of the walls of the bone to such an extent that the impulse of the artery might readily be communicated to the whole mass.

Among these cases, however, there are four which prove sufficiently that a variety of tumors exist, which consists in enlargement of the arteries, especially of those of the medullary membrane. In its progress this tumor is accompanied by absorption of the interior of the bone, and coincident external osseous deposition, so that the tumor is surrounded by a thin, more or less complete, osseous shell. Yet, as before said, the pulsation which these exhibited might as well have been the result of their contiguity to a large artery, as of the action of their own vessels. Breschet represents this disease as analogous to the erectile tumors of soft parts, and he thinks that in the early stage, before there is much destruction of the bone, the ligature of the main artery may be tried with the expectation of success. In one of the cases related the femoral artery had been tied, and a complete cure of the disease followed. In another the same treatment was successful for only seven years, and at the end of that time the tumor returned.

[The whole of the subjects introduced in this lecture—which concludes the series—were illustrated by a number of very beautiful specimens of diseases of the bones, from the museum of St. Bartholomew's Hospital.]

To-day I propose to lay before you a sketch of a very important form of disease which attacks convalescents from fever, and runs a course of remarkable intensity and rapidity. I am not aware that this form of disease has been described by pathological writers; the nearest approach to a description of it is an account of the swelled leg which occurs after fever, given by a Glasgow physician. Dr. Stokes and I have given a description of swelled leg after fever, as observed during the epidemic of 1826, but the important and fatal form of the disease which I am about to describe, did not come under my notice until within a very recent period.

Before the commencement of the present session, a fine young woman, aged 24, previously healthy and robust, was admitted into our fever ward. She was admitted on the 26th of September, having been at that time eight days ill, and labouring chiefly under gastric and cerebral symptoms. Her treatment consisted in the application of leeches to the epigastrium and head, cooling drinks, and blue pill combined with James's powder. Under the use of these and other appropriate remedies, the fever declined, and on the 1st of October the cerebral and gastric symptoms had disappeared, and the patient complained merely of a slight degree of feverishness. On the 2d of October she was sized with rigors and horripilation, followed by intense pain of the left mamma, accompanied by numbness and loss of power of the corresponding arm. She was leeches with some relief, but passed a sleepless night, and next day an oblong patch of redness was seen extending upwards from the nipple; the pain was still violent, and she could not bear the slightest touch on the affected parts. The breast was leeches again, and fomented assiduously during the day. On the 4th the erysipelas was spreading, and the pain was still agonizing. She screamed out whenever it was touched, and could not bear even the weight of her dress or covering. On examining the breast, no enlargement or hardness could be observed; there was no remarkable heat or tension, and with the exception of a slight erysipelatous redness, and pain rivalling that of *tic douloureux* in severity, there was nothing to indicate the presence of disease. The left arm continued numb and powerless. This state of things was accompanied by remarkable increase of fever, as manifested by foul tongue, accelerated pulse, and sleepless nights. She now began to complain of dull pain in the calf of the right leg, aggravated by pressure or motion, but not attended by any apparent

increase of heat, swelling, or induration. On the 5th she is reported to have passed a sleepless night, although the watery extract of opium had been administered freely on the preceding day and evening; the erysipelatous redness had extended nearly as high as the clavicle, and the affected parts had now begun to swell considerably. On the 6th she is stated to have had some sleep, and the erysipelas was extending, in some parts covered with vesicles. She again complained of cramps in the right leg, and on making an examination we found considerable tenderness on making deep pressure, but no external indication of disease. Her debility was increasing, accompanied by a tendency to looseness of bowels, for which she was ordered enemata of sulphate of quinine and laudanum. On the following night she was attacked with intense pain in the leg, accompanied by exquisite tenderness to the touch, but no redness, swelling, or increase of temperature. The erysipelatous affection of the breast had now become pale, and ceased to spread. The enemata were continued, the parts dressed with mercurial ointment and extract of belladonna, and wine freely allowed. She passed the night in great agony from the intense pain in the leg, and complained of frequently recurring rigors, followed by perspirations. She also stated, that for the last two or three days she had experienced repeated attacks of tremor in the affected limb; one of these tremors attacked the limb on the night of the 8th,† and continued for three or four hours, terminating in copious general perspiration. These increased on the following day, attended with increase of fever, thirst, and debility, and the pain in the leg continued with unabated violence. It is worthy of remark, that at this time there was no erysipelatous redness or discolouration of the affected limb, and scarcely any swelling. On the 9th, she is reported to have passed the night screaming and sleepless, she vomited three or four times, complained of intense pain in the abdomen, and had a violent rigor which continued from one o'clock to six in the morning, followed by profuse perspiration. The right leg continued exquisitely painful as before, became somewhat swollen, and its veins appeared more prominent than natural, but there was no discolouration of the integuments. Both arms were now painful on motion, and the left leg became painful and tender on pressure. Under this complication she sank rapidly, and died at three o'clock in the afternoon.

On dissection, purulent matter was found under the integuments covering the

left breast, but the gland itself appeared healthy. There was no vascularity or other traces of peritoneal inflammation, and the abdominal viscera were healthy. The right leg was infiltrated; its veins were pervious and elastic, but their internal coat exhibited a rose-coloured tinge.

Here, then, we have a very remarkable and formidable train of symptoms, arising without any obvious cause, running a rapid and fatal course, and exhibiting a character of singular intractability. From all that we had previously seen or heard, this young woman's constitution was robust and healthy, her fever had been treated successfully, and she appeared to be getting over it without any sinister accident, or any complication capable of disturbing her convalescence: yet at this period she is attacked with fever of a new type, accompanied by local affections of the breast and extremities, which run a rapidly fatal course, and exhibit phenomena of a new and extraordinary character. She is first attacked with erysipelas of the left mamma, accompanied by pain and loss of power of the corresponding arm; then she gets exquisite pain of the right leg, and then of the left leg and right arm; in fact, the whole four extremities are more or less implicated. Now by what name should we designate this affection, or what would be the most appropriate term to apply to it? Was it phlebitis, or erysipelas, or phlegmasia dolens? The affection of the mamma certainly resembled erysipelas, but differed from it in the agonizing character of the pain, and I have already observed that in the legs or arms there was no appearance of redness or discolouration. That it was pure phlebitis I think we are not authorized in concluding, from the phenomena observed on dissection. There was no pus in the veins (an occurrence which might naturally be expected from the acute character of the disease,) no thickening or induration, the coats of the veins were elastic, and to all appearance healthy, with the exception of a rose-coloured tinge. Now considering the previous state of the woman's system, I do not think that we can conclude as to the existence of pure phlebitis on such slight grounds, or say that the whole group of symptoms which characterized the secondary attack depended solely on inflammation of the veins. The disease of which I speak simulated in many points phlegmasia dolens, but differed from it in the phenomena observed in the breast, as well as its more general diffusion, and the absence of that peculiar whiteness of the affected limb which characterizes the latter affection. It appears to be a form of disease resulting from the generation of a morbid poison in the system, and mani-

festing itself in diffuse subcutaneous inflammation of a low and cachectic nature, affecting primarily the skin and subcutaneous cellular tissue, and afterwards involving all the subjacent parts more or less according to their different susceptibilities. It was accompanied from the commencement with increased irritability of the muscular and cutaneous nerves; indeed, in the case just detailed, the nerves appear to be the parts primarily affected. Another remarkable circumstance connected with this case is the loss of power observed in the affected limbs. In all cases where a severe and painful affection of the nerves is present, you have more or less loss of power, but as far as my observation has gone, there appears to be a difference in the derangement of muscular motion connected with painful affections of large nervous trunks, and that which accompanies an affection of the terminating fibrils or nervous extremities. In the latter case the degree of paralysis is always more considerable; of this phlegmasia dolens affords a good illustration. In this disease the extremities of the nerves are chiefly affected, and the loss of power is always greater than when a large nervous trunk is affected, as for instance in sciatica. In the latter affection the pain is often extremely violent, but the motion of the limb is never so much impeded as it is when the nervous extremities are the parts chiefly engaged.

You perceive, then, that the affection which I have just described consists in the development of low, malignant, and irregular inflammatory affections in various parts of the body, but particularly in the extremities, commencing probably in the subcutaneous cellular tissue, but subsequently extending to all the neighbouring parts, and exhibiting many of the characters of those inflammations which result from the presence of an animal poison in the system. A peculiar feature of this affection also is, the intense neuralgic pain which accompanied it, and I think it might with some propriety be designated as neuralgic diffuse inflammation after fever. It is accompanied by a fever of a peculiar type, ushered in by rigors, and characterized by remarkable derangement of the digestive canal, debility, and sleeplessness. A point also which deserves notice in this case was, the recurrent rigors and perspirations, marking the occurrence of new and additional mischief, and indicating the malignant and intractable nature of the disease.

One word as to the connexion of this disease with phlebitis. Some pathologists are of opinion that phlegmasia dolens and swelled leg after fever are nothing more than modifications of phlebitis. I cannot, I must confess, agree with this opinion,

nor am I prepared to admit that the symptoms in the foregoing case were referrible to mere inflammation of the veins. I do not deny that the veins may be affected, but phlebitis is not the first link in the morbid chain, and is itself merely a consequence of the same unknown cause which determined the inflammation of other tissues. I beg leave to observe here, that the affection I have just described seems like others capable of existing in very different degrees. Thus, I have seen some instances in which there was no other symptom but severe pain of the extremities, generally about the calves of the legs, and which was relieved by warm fomentations and mild aperients. Again, I have seen in addition to this symptom, swelling and tenderness of the legs, which, however, generally yielded to leeching and other appropriate means. Probably we are authorized from this and other facts in concluding, that the disease is not always of a malignant and fatal character, and that there are at least certain forms of it amenable even to simple and ordinary treatment: you should, however, be always on your guard when patients recovering from fever are attacked with pain, in the lower extremities particularly, as this symptom not unfrequently ushers in a serious and alarming disease.

The next case of this disease observed in our wards, occurred also in a young woman, named Dillon, aged 23, and apparently of good constitution. She was admitted into the fever ward on the 2d of September, being at that time about seven or eight days ill. She had on admission the usual symptoms of fever, accompanied by intense bronchitis, dyspnoea, costiveness, and loss of sleep. Under the use of cupping, blisters, calomel, and other appropriate means, the fever and pulmonary symptoms declined, and she was pronounced convalescent on the 12th. On the 18th she had been up as usual, but towards evening complained of rigors, and said she felt her right leg very painful. The pain of the limb continued next day, intermitted during the following night, but returned on the morning of the 20th with increased violence. She was leeches without much relief, and on the 21st she is reported to be extremely feverish, her pulse frequent, her tongue foul, bowels loose. She had passed a bad night, and the leg was still exquisitely painful and somewhat swollen. She had twelve leeches again applied with some relief, but on the 22d the left shoulder became similarly affected with pain, and so tender as not to admit of the slightest pressure. On the 23d there was some diminution of pain in the leg and shoulder, but her pulse was jerking and unequal; her tongue parched;

her countenance anxious; and she complained of intense pain in the small of the back. She passed a sleepless night, and next day complained of exquisite pain in the left lower extremity. This was accompanied by an exacerbation of the febrile symptoms; she moaned constantly; her pulse became excessively feeble and rapid; and she died on the 24th.

On dissection, the peritoneum, particularly that portion of it attached to the abdominal parietes, was found remarkably vascular, the vascularity being most intense over the hypogastric region. There was no effusion of lymph or serum, but about half an ounce of purulent fluid was discovered in the cavity of the pelvis. The viscera were healthy. The internal surface of the principal venous trunks were tinged red, and there was a small quantity of coagulated blood in their cavities. On making an incision into the right leg, along the course of the internal saphena, the subcutaneous cellular membrane was found infiltrated with sero-sanguineous fluid; the texture of the veins was here apparently natural, their cavity pervious and filled with fluid blood, without any lymph or purulent admixture. No distension or enlargement of the lymphatics was observed.

Here, gentlemen, you have a case corresponding in its main points with the former, and differing from it chiefly in being complicated with peritoneal inflammation and synovitis of the shoulder-joint. Its origin was similar; it exhibited the same kind of intense neuralgic pain; the same fever; the same extensive diffusion of local inflammation, and the same unfavourable termination. The chief points of difference were, that in the latter case the disease attacked the synovial membrane of the shoulder-joint, and the serous membrane of the abdominal cavity. This, however, is by no means unusual. As to the synovitis, I have observed it in more than one instance after fever. I have witnessed a very remarkable instance of it in a man in this hospital who was attacked with swelled leg after fever. In addition to the affection of the leg, he had also synovitis of the knee-joint of so severe and intractable a character that he recovered with difficulty, with an ankylosed state of the joint. On the whole, the disease which we have been considering is one of great importance, and deserves particular attention. It is sometimes of a very unmanageable character, and baffles our best directed efforts. The treatment which appears best adapted for it consists in leeching, fomentations, and the application of mercurial ointment with extract of belladonna to the affected parts: these, combined with the internal use of quinine

and opium, with occasional doses of calomel, seem to comprise the chief remedies on which we can place any reliance.

Bearing some analogy to the foregoing, and requiring somewhat similar treatment, is another class of cases, in which, after some slight injury, and sometimes without any apparent cause, persons are attacked with local affections, attended by fever, remarkable sleeplessness, and an eruption of those pustules which were first described by Mr. Colles, and of which I have said something in a former lecture*. I shall read here for you the notes of an interesting case of this description which came recently under the notice of Mr. Trenor, a gentleman distinguished for the accuracy of his observation.

A lady, aged about thirty, of dark hair and pale complexion, was visited by Mr. Trenor in October, being at that time three days ill. She had suffered some time previously from a cutaneous affection of the hands, which, from the appearance of the skin and the description given by the patient, was supposed to be psoriasis. Three or four days before her illness she had pricked her finger with a needle, but did not pay any attention to it, as a similar accident had often happened before without any consequent inconvenience. On examination, three pustules or rather vesicles of different sizes were found on the inside of the finger and wrist, and there was an indistinct blush on the inside of the arm, which, however, the patient thought to be caused merely by the weight of the limb, as she lay on her side. The fore-arm was intensely painful, and the slightest touch excited extreme agony. The arm was also tender, and in the axilla was a small hard tumor, exquisitely tender to the touch, and from which the pain shot inwards over the anterior and upper part of the chest. The affected arm was powerless, and very painful on motion. Her pulse was 100; tongue white and moist; bowels opened by medicine; skin not differing much from the normal temperature; but she was extremely restless, and had not slept for the last two nights. She was ordered to take three grains of calomel and two of the watery extract of opium at bed-time, and an aperient draught the following morning: the tumor in the axilla was carefully poulticed. On the following day the pain of the limb continued, but she had rested much better. The tumor in the axilla was stationary. The calomel and opium were repeated in the same quantity night and morning, and she took a quinine mixture every third hour. Next day she appeared much easier, and under the same treatment, combined

with occasional purgatives, she improved rapidly, and in the course of four or five days required no further treatment, except an opiate at bed-time, and the quinine mixture, which was continued for some time longer. The painful tumor of the axilla gradually disappeared of itself, for the local applications were given up at an early stage of the disease, being more inconvenient than serviceable.

Here, you perceive, a train of severe constitutional and local symptoms arises from an apparently trivial injury, and the patient is attacked with fever, sleeplessness, and exquisite pain of the affected limb, accompanied by a slight blush of erysipelatous redness. There was also the same loss of muscular power which we observed in the cases of swelled leg after fever, shewing that the extremities of the muscular as well as the cutaneous nerves were engaged. Now in this instance my friend took the same view of the case as I did in a somewhat similar one which I am about to detail. He looked upon the irritative fever, the sleeplessness, the agonizing pain, and the pustules, as symptoms not to be treated by bleeding, or leeches, or cold applications, or tartar emetic and nitre, but by tonics, opiates, and a mild nutritious diet. He gave calomel or blue pill, with full doses of opium and quinine, and ordered her to take chicken-broth and beef-tea. During the course of four days she took fifteen grains of opium without any affection of the head or derangement of the stomach, and nine grains of calomel and a drachm of blue pill in the same period without any appearance of salivation. I have no doubt that in this instance the free use of opium tended not only to produce sleep and to relieve pain, but also to diminish the constitutional irritation on which the eruption of pustules seems to depend.

The next case of this affection deserving of notice is that of a French sailor boy admitted into Sir P. Dun's Hospital, labouring under a violent and dangerous form of fever, apparently typhous, but wanting the usual eruption of maculæ. His pulse was but little accelerated at first, but he was very weak, restless and sleepless, and complained of exquisite pain in the side of the neck extending over the whole surface of the right side from the angle of the jaw to the tip of the shoulder. This region was very tender, and exhibited a diffused swelling and fulness with very slight redness, the latter only visible towards the centre. There was pain in the axilla, with incipient inflammation of one or two glands, and the right side of the chest, though neither red nor swollen, was very painful on pressure. Immediately after detecting the existence of this diffuse

* See Lecture viii. of this series.

inflammation, I remarked to the pupils that this was a case likely to favour the development of Colles' pustules, and accordingly I examined his skin and found two vesicles each as large as a shilling on the fingers of the right hand; one of these vesicles was formed round a slight superficial wound on the knuckle of the middle finger. Here it was not easy to determine whether the diffuse inflammation of the neck was a consequence of the wound on the knuckle; or whether the former arising spontaneously had generated in the system a morbid poison which had reacted on the integuments around the wound, and formed a vesicle surrounding it. I am inclined to adopt this latter opinion, for I have seen more than one similar case proving that where a poison is at work producing a tendency to cutaneous eruption, the existence of a small wound in the skin generally determines the morbid action towards that point of the surface, and causes, when any of Colles' vesicles are formed, the formation of one around the wounded spot. Thus in a grocer ill of typhus, whom I lately visited along with Mr. Bourke, of Camden Street, one of these vesicles formed round a sore on his knuckle inflicted by a sharp scoop prior to the commencement of the spotted fever. Here the fever evidently engendered the poison, while the wound determined its action on the skin to a particular place: the same is observed in psoriasis, in venereal cachexy, and in small-pox. While the constitution labours under any of these diseases, injuries of the skin frequently call forth the specific cutaneous affection in the injured part.

But to return to the case of the French sailor.—At first the diffuse inflammation of the neck was not accompanied by much fever, but in a few days suppurative fever set in, and a circumscribed swelling was observable in the centre of the inflamed part. After a short time this was opened by Mr. Houston, and a large quantity of pus evacuated; some improvement in his general health took place, and the peculiar distress produced by the diffuse inflammation in the neck, arm, and side, subsided; the agonizing tenderness had gone, and he seemed to be fast improving notwithstanding the profuse discharge of matter from the opened abscess, when suddenly he got acute hectic fever, rapid emaciation, and a sunken countenance, with cough and shortness of breath; a moist crepitus was now discovered in the upper lobe of the right lung, just below the seat of the abscess. The case now assumed a most hopeless appearance, for in the exhausted state of our patient we had but slender hopes of his recovering from this pneumonia. The question oc-

curred, what caused the pneumonia? Did it arise from a communication between the abscess at the lower part of the neck and the upper lobe of the lung, or was it phthisis rapidly developed in a constitution run down by previous illness, or was it simple and self-existent pneumonia? These are questions which it was not very easy to determine, and yet how important was the determination with reference to prognosis. If the pulmonary affection depended on an extension of the inflammation from the neck to the upper part of the lung, there was a chance of recovery, but if it were phthisis the boy was lost. I declared to the class my conviction that it was phthisis, and for a few days the boy seemed hurrying to the grave, when suddenly the abscess in the neck dried up and became consolidated, and at the very same time the pneumonia in the lung just below the abscess disappeared as rapidly as it had arisen! all fever subsided, and the boy, getting rid of his pectoral affection, was at once out of danger. I cannot explain the remarkable and unhoped-for termination of this affection, except on the supposition, that the moist crepitus in the lung, and the pectoral symptoms, originated in a suppurative inflammation, suddenly extended from the lower part of the neck to the contiguous portion of the lung, and as suddenly ceasing when the abscess healed. I have dwelt on the particulars of this curious case, as I have neither seen nor read of any thing similar.

An old man from Bray, admitted into the clinical ward of Sir P. Dun's Hospital, exhibited extensive gangrenous erysipelas on the inside of the right knee and thigh, caused by a moxa applied for the cure of pain in the knee. In a few days, patches of diffuse inflammation, ending, some in sloughing, and some in suppuration, appeared on his hand, and other distant parts, and several of Colles's vesicles developed themselves on his trunk. Shortly after, another man, young and athletic, who had been bled for pneumonia, and in whom the wound in the vein had caused ill-conditioned diffuse inflammation at the bend of the arm, was admitted under my care. In him, too, Colles' vesicles formed in various parts. To conclude, gentlemen, you may gather from the numerous examples we have witnessed, that these vesicles or pustules constitute a peculiar feature accompanying many varieties of disease, which agree but in one circumstance, the formation of a cutaneous eruption, caused by the operation of a morbid poison, generated in some cases in the system itself, in others introduced from extraneous sources. Among the most frequent causes that give rise to the evolution of this poison in the system, is dif-

fuse inflammation, no matter how produced—whether by a bruise, a burn, a punctured wound, a bed-sore, or the poison of glanders. In fine, you may remark that the cutaneous affection thus caused bears some analogy to exanthematous diseases of a malignant character, and marks a state of the system requiring wine, opium, and quinine. In most instances the eruption is either pustular or vesicular, but in some it assumes the appearance of small patches of diffuse inflammation, or of ill-conditioned furuncles.

ON THE FORMATION OF BONE.

To the Editor of the Medical Gazette.

SIR,

IN the abstract of the fourth lecture, delivered by Mr. Stanley before the Royal College of Surgeons, which was published in the MEDICAL GAZETTE of July 1, it is stated that “if in a living animal, a portion of the whole thickness of a long bone *with its periosteum* be removed, reproduction is not to be expected.” Will you permit me, however, to call the attention of your readers to the following results of certain experiments performed by Dr. Heine, of Wurtzbourg, to elucidate the subject, which appear almost directly to contravene the above statement of Mr. Stanley.

The following account of them is condensed from the Archives Générales de Médecine, for April 1837 : the original memoir was published in 1836, in Graefe and Walther's Journal, vol. xxiv.

This experimentalist abstracted portions of the ribs of dogs, of various lengths, but always sufficiently long to create a considerable interval between the extremities of the remainder of the bone. The animals were killed at different periods, and it was found on examination that new bone was formed, so as to restore the continuity of the rib; in some cases, even in the second month. In one case it was distinctly seen that the newly-formed bone was not united to the extremities of the old by osseous matter, but merely by fibrous tissue; so that two false joints existed between the restored part and the extremities of the fragments of the original rib; which latter consequently could not be considered to have produced the new bone by exudation.

From one dog, the *whole fibula with its periosteum* was removed, and fifty-

seven days afterwards it was found that a new bone was formed at the upper part of the leg; it was several inches long, slender and straight, and it had two surfaces and two borders. The tibialis posticus was attached to the posterior surface, the peronæus longus to the anterior, and the interosseous ligament to the internal border. In the situation of the external malleolus were two other fragments of new bone; both of which were united by fibrous tissue to the tibia and to the external ligament of the joint.

From the results of numerous experiments, Dr. Heine was led to conclude that the bone and medullary membrane, the periosteum and its productions, concur in the reproduction of bone, but *if these be absent, the surrounding soft parts will perform the same office.*

The following experiment, although not strictly relevant to the present subject, is still, perhaps, sufficiently interesting to warrant its insertion at some length.

The whole of the 9th rib, from its vertebral to its sternal extremity, with a portion of its cartilage, was removed from a dog three years old; the periosteum, however, was left adhering to the soft parts. The wound was healed completely in a month, and at the end of two months a hard elongated body could be felt under the integuments, and appeared to be gradually increasing. Five months and a half from this first operation, a portion of the sixth rib, seventeen lines in length, was removed from the same dog, and its ends having been perforated, it was replaced and retained *in situ* by means of two ligatures. The wound healed by the first intention, but on the 23rd day an abscess formed in the situation of the replaced fragments, which on the 28th day ulcerated in three places, giving exit to pus mingled with blood.

One month and twenty-two days after the second operation, and seven months and eleven days after the first, the animal was killed: the blood-vessels were injected, and the following are the results of the anatomical examination. The pleuræ and lungs were perfectly natural; in the place of the ninth rib was a new bone, much more mobile than the other ribs: the intercostal muscles were inserted into it as in the normal state. A comparison of the rib that had been removed, with its sub-

stitute, shewed that the latter was broader, but six times shorter, and not so thick; its curvature was less marked than that of the other ribs; the external surface presented many inequalities, especially posteriorly, where the *longissimus dorsi* was inserted. The head, neck, and tubercle, were wanting; yet rudiments of them were found, for the new bone terminated posteriorly by two little prolongations, separated by a contracted portion. This extremity was attached by fibrous bands to the transverse process of the corresponding dorsal vertebra.

The anterior extremity was united to that portion of the cartilage which had not been removed, by a whitish fibrous tissue, which possessed the outward appearance, thickness, density, and elasticity of cartilage.

That portion of the 6th rib which had been cut out and afterwards replaced, was found floating in the abscess, into which the three before-named orifices opened. In fact it had mortified, and had of course contracted no adhesions to the surrounding parts: nevertheless, the continuity of the sixth rib was re-established by means of a new production of bone, surrounded by a vascular periosteum. The intercostal artery pursued its usual course along its lower border. It differed from the portion which had been removed, and from the rest of the rib, in being broader, thicker, and more convex on its internal surface: sections shewed that it was composed of a dense, porous, reticular substance, permeated by a number of small blood-vessels.

But the fact of greatest interest connected with this experiment is, that the reproduced portion of the 6th rib, after one month and twenty-two days, was broader and thicker than the ninth, after seven months and eleven days. This difference, Dr. Heine thinks, may be accounted for, 1st, by the influence of the extremities of the old bone in the reproduction of the new; 2nd, by the greater time which elapsed in the case of the ninth rib, and in which the newly-formed bone may have shrunk, like a provisional callus; but 3rd, principally by the influence of the replaced fragment in augmenting the reproductive forces, just as a seton produces bony consolidation of a false joint. In several repetitions of this experiment, the intercostal artery was found doubled in volume.

But to return to my primary subject. If credit be given to the veracity of these experiments, (and I see no reason to the contrary) it must be pretty evident that not only a portion but even the whole of a long bone, or of a rib, may be abstracted from a living animal, and be reproduced, whether the periosteum be removed with it or not. I am not so presumptuous as to affirm that such a result does always happen in every case, and under every condition of the system, yet it may be fairly inferred that it would be possible in the case of those bones whose fractures unite with a provisional callus.

There are three different circumstances in which a *rapid* and salutary generation of osseous matter is strikingly exemplified: namely, fracture uniting by provisional callus, necrosis, and mechanical abstraction of bone, as in Dr. Heine's experiments; and in all these cases the mechanism of reproduction seems to be identical. Yet the origin of the new bone which constitutes a provisional callus, has been very differently explained by various physiologists: some attributing it to the periosteum, others to the medullary membrane, others again to the atmosphere of surrounding cellular tissue; nor is there one of these opinions that is unsupported by formidable arguments, deduced from observation or experiments.

That the periosteum is capable of secreting new bone is proved by the phenomena daily occurring in inflammation of that membrane, and by the fact so much insisted on by Duhamel, that the rudiments of provisional callus and of the new bone in necrosis, are found between its layers*. Some modern authors, in describing the process of union of fractures, speak of the "disappearance" or "absorption" of the periosteum from that part of the bone to which the provisional callus afterwards adheres, and of its reappearance as an investment of the callus when that is become cartilaginous, although the fact is, as Troja† expresses it, that there is no real "*absentia sed potius intima unio et confusio cum gelatina primis temporibus.*" And a reference to those preparations will shew, that in necrosis, as well as in fracture,

* As may be easily seen by referring to the series of pathological preparations in spirit, in the Hunterian museum; especially Nos. 155, 167, 187, 190, 191, 197.

† Troja, *De novorum ossium regeneratione*. Lat. Par. 1775.

the new bone is formed between and under the layers of periosteum.

But it is no less true, that the bone itself, or the medullary membrane, is capable, like the periosteum, of exuding lymph which may speedily ossify. Troja, who made innumerable experiments proving the latter membrane to be the source of new bone in necrosis, could not agree with Duhamel and his followers, that it is equally the matrix of provisional callus, for he fractured various bones in *young* animals, without, as he says, injuring the periosteum, and then he found a gelatinous exudation, which gradually ossified, between, and apparently proceeding from, the broken extremities, and he applied such a degree of pressure during the treatment, as to prevent all tumefaction or infiltration of the periosteum. Mr. Bransby Cooper*, in his recent researches on this subject, seems to display some slight inkling of attachment to the idea, that ossification spreads into callus from the surface of the bone.

But thirdly, that the cellular tissue is competent to secrete new bone, must be evident from Dr. Heine's experiments, from the ordinary phenomena of the production of callus, especially in cases where there has been much disturbance or comminution, and from the curious instances of fractured cervix femoris within the capsular ligament in which a callus is formed externally to that membrane, and of course cannot come in to the aid of the fracture. Mr. Mayo, in his excellent "Outlines of Pathology," refers to one preparation in the museum of King's College, (now marked V, 4) in which this is obscurely seen: but a striking specimen of this frustrated operation of nature is presented by a preparation in the Hunterian museum, marked $\frac{137}{249}$ F., and presented by Mr. Earle.

It is not very difficult, however, to reconcile these adverse theories, nor explain how parts seemingly so different should each be able to perform the same action. They are but minor differences included within the limits of a greater similitude; for bone, fibrous membrane, and cellular tissue, are in structure and endowments essentially similar—with certain variations, however, in order to adapt each to a particular office.

The moderns seem to be too fond of isolating the osseous tissue, fibrous tissue, cellular tissue, muscular tissue, and so forth; presenting them to the mind as so many abstractions, and studying the endowments in health, and depravations in disease, of each separately. But by adopting M. Raspail's theory of organization, many anomalies are easily accounted for; especially the conversion of tissues, and the growth of one tissue from another; for this philosopher conceives that the structure of every part of the system is primarily the same; that it consists of innumerable cells or vesicles, capable of secreting other vesicles by successive developments of their parietes; that to form bone elongated vesicles are incrustated with earthy matter on their internal surface; that muscle consists of cells filled with a substance endowed with the faculty of contracting; and that brain and nerves and other organs are formed in the same type.—I remain, sir,

Your obedient servant,
ROBERT DRUITT, M.R.C.S.

July 14th, 1837.

CASE OF
ENCYSTED TUMOR IN THE
CEREBRUM.

To the Editor of the Medical Gazette.

SIR,

KNOWING that your valuable periodical is always open for the insertion of any facts that may be curious or instructive, I send you (by permission) the following case, which has lately fallen under my notice; and as Baillie, in his work on Morbid Anatomy, has stated, "Encysted tumors containing a serous fluid have sometimes been found in the substance of the brain, but they have never come under my own observation, and are very uncommon;" from the infrequency of its occurrence it must prove interesting to such of your professional readers as may deem it worthy of their perusal. Should you be of this opinion, and insert it in your pages, you will greatly oblige,

Your obedient servant,
HENRY JAMES.

4, City Road,
July 17, 1837.

* Guy's Hospital Reports, 1837.

Maria Huckle, aged 65, of a plethoric habit, was six weeks since admitted into the infirmary of St. Luke's Workhouse, under the care of Mr. Rance, labouring under an affection of the head. She lay in a state of apoplectic stupor, from which she could be roused imperfectly to answer questions, but seemed unwilling to give any account of herself. The pulse was very feeble and slow, the eye slightly sensible to the stimulus of light, and the secretions sluggish; she was with difficulty made to take nourishment. The only treatment from which she seemed to derive any benefit was the stimulating: whilst under this she for a few days appeared much improved, but again relapsed into her former state, and gradually sunk under symptoms of apoplexy.

Examination 36 hours after death.—On raising the calvarium, which was very thick, and to which the dura mater was very adherent, we found this membrane likewise thickened. On removing it, the left anterior lobe of the cerebrum appeared to have lost its convoluted appearance, and was nearly devoid of vessels, presenting a flattened surface of a bluish tint, and fluctuating distinctly on touching with the fingers. The superior portion of the cerebrum was carefully dissected away, not being more than a line in thickness, and slightly adherent to the sac, which now presented itself, containing a clear fluid. The surrounding cerebrum was then removed, which was much firmer than usual, and appeared condensed.

Perceiving that the ventricle was in danger of being wounded, and in that case, had the cyst been connected with it (which was at first supposed), would have allowed the escape of the contents, the little finger was carefully introduced under the sac to ascertain this fact, when it suddenly rolled into the palm of my hand, being the size of a goose-egg. The cavity in which it was contained was lined with the pia mater, which was beautifully vascular. The examination of the ventricles was then proceeded with. The right contained nearly an ounce of serum, but was otherwise normal. The left, which was contracted, had a small quantity in the posterior cornu. The anterior sinus was pushed to the right side, and compressed; the corpus striatum was reduced to half its proper size, and was

very soft; the plexus choroides presented the appearance of small hydatids; the wall of the cavity over the anterior sinus was the same thickness as the superior one; the nerves presented no appearance of disease; the brain was in a general state of turgescence: no effusion of fluid between the external membranes.

The cyst, which is formed of more than one membrane, is preserved; the cavity in which it was contained was so much destroyed in the dissection, as for a specimen to be useless.

The singularity of the above case induced me to make some inquiries relative to her history before coming under our notice, and I learned from an inmate who had been acquainted with her many years previously, that she had been a prostitute at Plymouth, and, getting intoxicated on board a man-of-war, fell from the gangway upon the main-deck, the left side of her head coming in contact with a ring-bolt; she was raised stunned, and much contused. She soon (apparently) recovered from the effects of her fall, but after some months complained of a violent pain on the injured side of the head, which was much aggravated by drinking, and feeling (to use her own expression), when she inclined her head, as though something rolled in it; her pain on lying down was sometimes very severe. She was now lost sight of till her admission into the house, where she had been some weeks before applying for medical relief, during which period she renewed her acquaintance with my informant, telling her that her head had always been bad. The symptoms now rapidly increased, and became as above stated.

The difficulty of diagnosis in diseases of the brain is well shown in the preceding case, great disease being present, with pressure, and change in the organic structure, the symptoms never appearing in an active form: she had neither fits, paralysis, nor defective vision: whilst, on the other hand, it will occasionally occur that there are symptoms, both local and general, calling for the most energetic treatment, and on making a post-mortem investigation we may find but little to account for death.

USE OF FRIAR'S BALSAM.

To the Editor of the Medical Gazette.

SIR,

IN the MEDICAL GAZETTE, July 8, page 559, are some remarks by Mr. Meade, to the truth and value of which I, and probably many others, could give testimony. I first saw the plan adopted twenty years ago, with "Clutton's Balsamic Tincture," in the Sheffield Infirmary.

I have always applied first a small piece of *dry* lint, three or four thicknesses; next, a piece of lint doubled and soaked with Friar's balsam; and then a third piece, still larger, over the others, so as to seal up the wound airtight.

I know from experience that it is a good plan; but my reason for addressing you is to caution those who may try it against allowing these applications to remain after the patient has complained of much uneasiness in the part, when there is at the same time an offensive smell arising from the wound. In one or two instances of compound fractures I have carefully removed such dressings after a few days, to apply a poultice, or the same again; but I have done this without disapproving of the applications in the first instance.

I have *generally* removed the lint, &c. about the tenth day.—I am, sir,

Your obedient servant,

W. ALLISON, M.R.C.S.

Retford, July 12, 1837.

MEDICAL GAZETTE.

Saturday, July 29, 1837.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

REMARKS ON THE HISTORY

OF

DISCOVERIES IN MEDICAL SCIENCE.

IN our last number we detailed the histories of two very interesting physiological discoveries, intending to make

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them examples of the confusion arising from several persons coincidently or successively observing the same facts, without being aware of what had previously been made known, or was then occupying the attention of others. At present we purpose to inquire into the causes which have produced such inconveniences, that we may thence learn the best means of preventing their future occurrence. Looking, then, at the manner in which the circumstances there stated had arisen, it is evident that their sources were, an insufficient knowledge of the works of previous writers, and hence we may conclude that the principal remedies will be a more clear and general acquaintance with the works of preceding authors—a system of more regular concentration of subjects in a few generally circulated, or highly authorized periodical works—and the maintenance of a more accurate chronology of the order of discoveries.

It is objected to the former, that it would require so great labour to read the immense accumulation of books necessary to make us acquainted with the state of knowledge at different periods, that a life would scarcely be sufficient; but this is absurd: and indeed, the time spent in re-making old discoveries would be quite sufficient. In no works are facts more difficult to find than in those of nature—no library is so extensive—no books so difficult to read as hers; the one is the world, and in the others are more than the world's languages, for in every page are different characters. And even were the difficulty of attaining a high degree of knowledge of the older writers far greater than it is, there is no excuse for that contempt and ridicule of authorities so often met with, which, at the same time that they seem to afford a man an excuse for his ignorance and indolence, permit him to gratify his vanity with the pleasing

hallucination that he is perpetually discovering. There are those among us who seem never to open their eyes but to see something new, and doubtless they who know least are most likely to meet with things unknown to them; but they should not presume that all others exist in such blissful ignorance. Their illusions are innocent enough when enjoyed in silence, but when writing is preferred to reading, the nuisance is insufferable. Such as these should learn better their duty towards their neighbour, and read others' books, as they would have others to read theirs. It is not meant that the whole or even a majority of the older writers need be read; anterior to those of the seventeenth century, a very small number would suffice; and after that date, by judicious choice, no more need be taken than would amply repay the student by their beautiful and clear descriptions, and the large quantity of useful and interesting information they contain.

Dutens, the historiographer, wrote a work, more remarkable for its ingenuity than politeness, in which he undertook to "demonstrate that our most celebrated philosophers have drawn the greater part of their knowledge from the works of the ancients:" *Quantum mutatus ab illo!* in these times they take a longer road, and find out the same knowledge for themselves. We will not undertake to believe with Mr. Dutens that no modern has made a discovery, because, till every thing is found out, our chance is only so much less than that of those who have preceded us, as the number of facts to be discovered is less now than at any former period; and as perhaps not more than one truth in every thousand of those that exist is at present known, we need not lament the smallness of the field allowed us to work in, but rather wonder that so many should often have chosen the same little spot to cultivate, and reaped the same fruits. "Multum quidem egerunt, qui ante

nos fuerunt, sed multum adhuc restat operis, restabitque multum," said Seneca, of his time and predecessors; and though every age has experienced and repeated the same truth, its force is still undiminished. Neither, in order to humble ourselves by exalting the past, are we inclined to adopt the opinion that either Hippocrates, or even Solomon, was acquainted with the circulation, and that the former did not detail it only because it was so familiarly known before his time that he might as well have written an Iliad after Homer; nor, to make ancient errors appear truths, would we care, with the old Martinus Scriblerus of Pope and Arbuthnot, to try to discover at what period the blood began to circulate. It is not to praise the ancients, but to improve the moderns, that we would call the attention of the latter to the works of those long since gone by; for we feel assured that in no modern work are there so well laid down a number of important matters, as in the writings of the authors of the 17th and 18th centuries. And it is only natural that such should be the case: the human frame is the same now as it was then, and the laws by which its actions in health and disease are governed have remained fixed; so that, except where the introduction of additional auxiliary means has increased our power of investigating structure and actions, our predecessors were nearly as well qualified to discover them as we are.

If the history and progress of medicine be examined, it will be found that every great improvement has been the result of the discovery of some new and better method of investigating the subjects of our science, as that of the art of injecting—of auscultation—and the improvements in the microscope, &c.; or of some single fact which at once led to a general principle capable of very wide application—as the compensating circulation in cases of obliteration of a main artery, the laws of monstrosities, &c.; or of some acci-

dental, but happy discovery, of a new unexplained mode of treatment, as of mercury in syphilis, cinchona in ague, &c. Upon such discoveries as these, and drawn on by the rapidly advancing collateral sciences, medicine has mainly effected all its improvements. In those departments where no assistance of this kind has been given, the experience of one period must be as good as that of another; certain things are to be made out, and if the opportunities afforded are sufficient, the seventeenth century is as fit to decide them as the nineteenth. In descriptive anatomy, for instance, what work of the present day is superior to those of Haller, Albinus, Willis, Soemmerring, or even Ruysch, Malpighi, or Mascagni? It was, in those times, the chief object of the most enlightened physicians, and as (except with respect to microscopical examinations) we have not attained to a single important improvement in the means of investigation, they were as capable of learning all the arrangements of the human body as any at the present day,—and they succeeded completely. It may be doubted whether any one point in descriptive anatomy has been *discovered* in the last forty years. Müller, provoked to the discussion by Arnold, has, in a paper lately published, shown every one of the supposed discoveries of his antagonist, and some others, in the nerves, the otic ganglion, the Jacobsonian anastomosis, and all, to have been known long since; and even he may possibly have overlooked many further and earlier proofs of the same. Yet descriptive anatomy is, perhaps, the most prolific subject in the modern literature of medical science.

In the descriptions of diseases given by our predecessors, superiority is acknowledged, though rarely taken advantage of; for Sydenham, Fordyce, Meade, and others of that stamp,

are almost as unknown as unequalled. And in treatment, when it is considered how large a portion of what is now employed is perfectly empirical, and that, *cæteris paribus*, any age is sufficiently well adapted for the discoveries of mere experience and observation, we might expect, *à priori*, what we find on examination to be true, that except in the few cases where it has been improved by one of the circumstances before mentioned, medical practice has been almost stationary for years. If any one doubts this, let him read the works of any old surgeon, Sharpe, or Wiseman, or Cheselden, and we shall be surprised if he disputes what we have advanced; and from surgery let him go to medicine, and consider how far our present treatment of fevers, or of affections of the brain, or of many other diseases which we might mention, is better than Sydenham's.

In minute general anatomy, in physiology, and pathological anatomy, the case is certainly very different: one age is not sufficient, even with the best auxiliary means, for attaining elevation in these, and though, as they at present exist, almost entirely the work of the last hundred years, they are still in their infancy; but even here, as we have seen, discoveries are sometimes made, which might as well have been achieved by reading as by experiments or dissections.

In regard to an improved system by which occasional communications might be more concentrated, and so admit of being more readily referred to, we fear we may seem to indulge in vanity of our own production, and that it may be said our

“Unum opus est (hanc), intactæ Palladis
urbem
Carminè perpetuo celebrare.”

However, if any question our right to be *recognized* as fitted to receive original communications in all branches of

medical science, we beg to refer them to our publishers, who, we believe, will be happy to furnish them with pretty convincing proofs that we possess due claims for registration;—our extreme modesty prevents us from saying more.

Again, the injudicious system of establishing a multiplicity of societies, in an erroneous intention of dividing labour, is especially injurious; all, perhaps, publishing Transactions, information is scattered over an extensive waste, in which it is vain to seek it; subjects are often placed in their wrong stations (as, for instance, who would look for the “reflex function” in the Zoological Transactions?), and that which was intended to divide, multiplies the work to be done. The avoidance of this inconvenience is one of the greatest benefits resulting from the institution of the British and Provincial Associations, which, provided their number be not increased, deserve, if for this end alone, every encouragement. Men of all pursuits and ranks meeting thus at one time and place, each may have his chronological information increased and improved; each subject is considered by competent judges, and not published merely to make up a volume of Transactions, but according to its actual merit for originality or other excellence; and accurate dates are given to every proceeding by the regular publication of reports of the present condition and the progress of different branches of science in the past year. For periodicals we can offer no such system of centralization, for it would savour too much of monopoly; we would suggest, however, to those who are in the habit of contributing to them, that each should make his paper more complete by references to other single papers or works on the same subject: by this means the publication of single cases, which is now of comparatively little

service to the public, might become really useful, besides that it would often enable the writer to draw more just conclusions than he possibly can do from the consideration of an isolated instance of any phenomenon. More judgment, too, might often be exercised in choosing a fit depository for any fact intended to be made public;—it should be placed where it is certain to meet the eye of those most interested in it: for example, medical communications should not be sent to journals of general science, nor those of general science to medical periodicals.

As to the publication of complete treatises, it has unfortunately been very fashionable to slight those who made many references to other works, as not having any originality. But have we not all obtained most of what we know from others? and though much of this may now have become so familiar to our minds that, like our common language, we have forgotten from whom we learned it, it is certain that we did not find it out for ourselves,—so that it merely shows greater honesty when a writer refers us to the works from which he obtained even his common knowledge; and if any are to be blamed, it is they who write as if that which they have learned by reading or the ear, were their own. We should be glad to see the German system of appending copious bibliographies to works, more generally adopted among us, especially if these were not copied at second-hand from one book to another,—as, we fear, quotations very generally are by English writers.

With respect to the adjudication of the honours of originality, they should be granted only to those who have fairly developed the fact or general principle in question: a mere hint thrown out—a guess, or an—“it is not improbable”—should be altogether refused any part of the prize. There are

many in the present day who are very fond of this mode of hanging out hooks on which they may by chance catch some of the discoveries that seem to float about us: cuckoo-like, they lay their eggs, but leave them to be hatched by others, and then would themselves take possession of the nest.

TWO CASES OF THE CÆSAREAN OPERATION.

BY DR. A. C. GÖTTSCHE.

CASE I. Fatal termination.—A. G. was born of a rachitic family, and was herself affected by the disease in childhood, so that she walked with difficulty until her seventh year; as she grew up, however, she became stronger and healthier, so as to be able to perform ordinary work, both in and out of doors.

She had been married a year when labour came on, in accordance with her reckoning, on the 19th November, 1834. The pains had set in, and the waters had been discharged, when the midwife, finding that the head presented, gave a favourable prognosis of the termination of the labour. Several hours wore away, however, the pains being apparently strong, yet the labour making no progress.

At 1 A.M. the pains being still strong and continued, Dr. Göttsche was sent for. On external examination he found a large pendulous abdomen; the symphysis pubis with a considerable horizontal inclination; the sacrum bent inwardly; and the tibiæ curved anteriorly. On internal examination he found that the promontory of the sacrum could easily be reached; and the length of the conjugate diameter of the pelvis appeared to him to be at the utmost one or two lines above an inch and a half. The head of the child was on the left side of the smaller aperture of the pelvis, pressing against the greater aperture, and still moveable by the pains. The os uteri hung laxly into the smaller cavity of the pelvis. At the request of Dr. Göttsche, Dr. L—, of U—, was now sent for, and arrived at 5 A.M. On examination, he thought that the length of the conjugate diameter of the pelvis was about three inches; and as neither the woman in labour, her husband, nor her parents, were inclined to the performance of the Cæsarean operation, an attempt was first made, by the advice of Dr. L., to apply the forceps. They would not catch, however; and the sensibility of the

os uteri seemed to render repeated attempts unadvisable. The only remaining way to bring a living child into the world without the Cæsarean operation, was to try to turn. Partly, however, from the sensibility of the os uteri, and partly from the conformation of the pelvis, it was impossible to reach the feet, and in case the child was alive, the only remaining resource was the Cæsarean operation. The woman said that she had not felt the child move for several hours, and it was only by careful and repeated auscultation, that Drs. G. and L. convinced themselves that it was alive. The operation being now consented to, the necessary preparations were made, and auscultation was once more employed, to make sure that the child was yet living.

The operation was performed at 2 P.M., on the 20th of November, with the assistance of Drs. O. and L. The uterus having been kept steady in the central line of the abdomen, an incision was made through the linea alba into the uterus. The right shoulder and arm first protruded, and then the head; and when the child (which was alive and pretty strong), was quite out, a large portion of the placenta and membranes came forth, together with a gush of very fluid dark-violet blood, from between the edges of the wound. When the funis had been tied and cut, the placenta was removed, except one or two small fragments, as well as a great part of the membranes; but it was necessary to leave a portion of them in the uterus. It required a long time to stop the hæmorrhage, (by which very fluid blood, that did not coagulate, was evacuated), as little or no aid was derived from contraction of the uterus. It was nearly an hour before a bandage could be applied. Four sutures, several pieces of sticking plaster placed between them, and a plug of lint inserted in the lower angle of the wound, constituted the dressing: nothing more could be done, as it was necessary to apply cold lotions to the abdomen to prevent hæmorrhage.

The patient was now put to bed, and took an opiate; and the greatest attention was recommended in continually renewing the cold fomentations. At midnight the patient was tranquil, with the exception of a troublesome cough. Blood had not yet flowed from the external parts; the uterus had contracted but little, and therefore cold injections, *per vaginam*, were prescribed.

On the morning of November 21st, the abdomen was tumid, and on its left side there was tenderness, increased by pressure or coughing; for this leeches were applied, and a mixture was exhibited, containing nitre, with extract of hyoscyamus. Towards evening this symptom was a good

deal better, but the pulse was quick and rather hard; there was considerable thirst, and the abdomen was much swelled. The patient had made water several times. The tongue was not coated, but the irritability of the stomach had increased so much, that almost every time drink was taken, even water, it was followed by vomiting. Under these circumstances another opiate seemed to be indicated, as well as the use of the medicines (if the stomach would retain them), and of the cold fomentations, in order to ward off inflammatory attacks, and soothe the irritation of the abdominal ganglia.

Nov. 22d. — The sickness diminished during the night, so that the patient was generally able to keep down drink, as well as medicines. On the other hand, however, the cerebral system seemed to be somewhat affected, as there had several times been traces of delirium. The abdomen was not so much puffed up as on the previous day, and was no longer tender. A tolerable quantity of secretion had oozed from the lower angle of the incision, and some blood had flowed from the external parts. The contraction of the uterus had been but slight. There had been one copious evacuation by stool; and on the whole it seemed reasonable to cherish a hope of a fortunate termination of the case.

At noon the state of the patient was the same, and she said that she felt quite well. The pulse did not betray any great irritation, and there was no feverish heat. In this condition the patient passed the afternoon until five o'clock, when she complained of violent thirst, and, when she drank, of darkness before her eyes. When laid upon the bed again, she cast a few anxious glances around her, and died without pain or cry, before Dr. Göttische could hasten to her assistance.

An inspection was not granted.

II. *Successful case.*—H. K. was born of a family in which several members had died of tubercular phthisis, some being rachitic, and others not. She herself had been obliged to remain in a sitting posture until her seventh year; and it was not until her ninth that she could move with any facility. She married in her thirty-first year, and became pregnant soon afterwards.

The labour pains came on in the night between the 20th and 21st June, 1836, and the membranes broke before the arrival of the midwife. She found a foot high up in the pelvis; and as the labour did not advance in spite of several strong pains, she determined, after the lapse of some hours, to send for a physician. On account of the meeting of the physicians of Hol-

stein and Sleswig, at Altona, not an accoucheur was to be found in Barmstedt, Pinneberg, or Uetersen; and it was not until noon that Dr. Göttische arrived at H. K.'s house.

On examination, it appeared that the right foot was high up in the pelvis, with the external malleolus against the symphysis pubis; while the left foot (which could not be reached till the woman's position was changed from the back to the side) was about half an inch higher, with the external malleolus above, and close to, the promontory of the sacrum. The sacrum was inclined considerably inwards; the symphysis pubis was almost horizontal when the woman was sitting upright; the abdomen pendulous; the back of the child against the anterior and right side of the uterus, which was inclined to the right; the head in the fundus of the uterus: the breech above the horizontal ramus of the os pubis. The woman being now placed in the position for turning, it was found on examination that the lower aperture of the pelvis was of the normal size; the space from behind forwards, $3\frac{1}{2}$ inches; the diagonal breadth of the pelvic aperture, $2\frac{1}{2}$ inches.

An attempt to introduce the whole hand failed entirely, as well as that of grasping the right foot with two fingers. Under these circumstances, to which was added a tenderness of the vagina on the introduction of several fingers, Dr. Göttische held the Cæsarean operation alone to be indicated. Four more hours passed away before the physician and surgeon who were to assist him in the operation had arrived. The pains had continued without furthering the labour, and therefore the operation was begun at five p.m., after the child had been ascertained by auscultation to be alive.

The uterus was now brought into the middle of the abdomen, and kept steadily there. The first incision was made through the skin in the linea alba; but a deep layer of fat made several repetitions of it necessary: the tendinous sheaths of the abdominal muscles were very thick. On cutting into the peritoneum, several ounces of a colourless and somewhat glutinous fluid ran out. The intestines did not come forth. The incision into the uterus itself injured an important vessel, but the bleeding was soon arrested. The right buttock of the child first presented, and then the right leg was extricated. The left soon followed, with the trunk, arms, and neck. The uterus contracted strongly upon the face, and required some little assistance to extricate the head. The child, whose head was of a blue colour, did not cry. The funis was now cut, a few drops of blood flowed from it, and the

boy soon raised his chest, and then his voice. There was now a pause in the contraction of the uterus; and a good deal of blood came from the wound, but flowed outwardly, thanks to the assiduous attention of Dr. Göttische's colleague. After the lapse of about five minutes, which were spent in tying the funis, and waiting for fresh pains, Dr. Göttische pulled the cord, which produced a contraction; but it was necessary to detach the placenta in part before it could be entirely extracted through the wound. The uterus now contracted considerably, so that its fundus was near the middle of the incision in the abdomen, but rather on the right of it. Nevertheless the blood (which soon coagulated) continued to flow from the wound, so that for full half an hour the application of cold water was necessary before the hæmorrhage was sufficiently arrested to allow the sutures and dressing to be employed. The assiduity with which Dr. L. pressed the abdominal parietes against the uterus, prevented any portion of intestine or omentum from protruding, and the blood from flowing into the abdominal cavity. Three sutures were now employed for the abdominal incision, and a strip of linen placed in its lower angle. The peritoneum was not included. Sticking plaster was put on, and a bandage finished the dressing. The patient, when put to bed, was seized with a violent shivering fit, which yielded to a few cups of warm chamomile tea. General warmth and a feeling of ease now came on; and in two hours and a half Dr. Göttische was able to leave his patient, after ordering an emulsion, containing extract of hyoscyamus and nitre, for a cough with which she was troubled.

July 22d*.—Soon after the departure of Dr. Göttische the cough became so violent and so frequent, that it was almost always necessary for the patient to be supported by some one, and her urine escaped involuntarily. Repeated doses of the emulsion, however, produced quiet, and, towards the morning, several hours' sleep. In the forenoon she was just as well as other lying-in women; towards noon, after a slight shivering, followed by heat, the body swelled a little, and there was increase of thirst. The pulse was very frequent, small, contracted, and hard; respiration somewhat straightened and quickened; the tongue not coated, but dry in the middle; burning heat; complexion yellowish (an alteration which was reported to occur whenever this patient

was unwell); the body free from pain. The bandage was well placed, and not much tinged with blood. From the external parts blood had flowed during the night as well as the morning. A little dilute phosphoric acid was added to the emulsion.

July 23d. — After Dr. Göttische had quitted his patient yesterday, at 3 P.M., all the symptoms grew worse, with the addition of violent vomiting. Until near midnight, tough masses of a greenish-yellow colour, and several worms, were evacuated; after which the feeling of tension gave way a little, the heat and thirst decreased, sweat broke forth, and soon after midnight there was a tranquil sleep of several hours' duration. On awaking, the patient made repeated attempts to take the medicines prescribed, but, from repugnance or irritability of the stomach, they had been as often rejected; so that all farther attempts were suspended until Dr. Göttische's arrival.

At 6 P.M. he found the heat far less pungent than on the previous day; the skin soft (which the day before had been hard and almost rough), and the pulse softer and larger; but the respiration was even more straitened, probably in consequence of the body being more swelled, and of the turgescence towards the breasts, which was already beginning. The bandage was somewhat stained with blood below; the plugs were deeply coloured. The patient said she was comfortable, except a troublesome feeling of tension. In compliance with her wish, the use of medicine was suspended till the following day; cold water was allowed for drink, provided it did not irritate the cough, and it was recommended that the tense breasts should be frequently emptied.

24th.—The vomiting did not return, and the thirst became moderate. The patient fell asleep towards midnight, after a tolerable quantity of milk had been sucked out, by which the tension of the breasts was lessened, and awoke at 6 A.M. after a gentle and refreshing slumber. When Dr. Göttische visited her at noon, she declared that she was well all but the wound, which forced her to keep her bed, and a little cough. As she had made water frequently, and as there was a sufficient secretion of milk and of the lochia, while the abdomen was still swelled, producing dyspnœa by its pressure, and the bowels had not yet been open, an enema of olive and castor-oil was prescribed. In a few hours there were several stools, on which the abdomen subsided, and the breathing became more free.

27th. — The bandage having become loose, it was necessary to renew it. The

* There is an error in the dates in the original. Either it should be June here, or July in the beginning of the case.—*Translator*.

threads had cut in, and occasioned pain in coughing. The edges of the wound adhered to one another throughout their whole length, even at the inferior angle, so that nothing but a sponge moistened with oil was laid upon them. The ligatures, however, were left, for when the sticking-plaster was removed there was hardly any pain on coughing. Some veal-broth was allowed, with the yolks of two eggs.

31st.—Yesterday the patient made an attempt to walk, which was immediately followed by a burning in the lower part of the wound. As the puerperal functions were quite regular, it appeared probable that a costiveness of several days' duration, and the pulling of the ligature in walking, might have been the cause of it. On removing the bandage the wound was seen cicatrized, with the exception of a small spot in the middle, an insignificant suppuration in the apertures made by the upper suture, and an erysipelatous redness with hardening around the two lower sutures. The threads were now drawn out, a simple cerate put upon the punctures, and fresh plaster applied: a clyster was ordered, on account of the costiveness. The woman was allowed to suckle her child, as she wished to do so: her diet consisted of broth with stale bread toasted, or else beer-soup with the yolk of eggs.

August 4th.—The puerperal functions are normal; the patient feels quite well. The wound has entirely closed, except a small spot in the middle, where a luxuriant granulation has shot up. The uterus can be felt somewhat on the right side. The granulation is touched daily with caustic potash, and a yard of plaster rolled round the wound. The diet is increased a little, but great attention to keeping the bowels open is recommended.

7th.—The granulation has improved; the patient feels quite well.

14th.—The scar is firm, and nothing but a spot one line in diameter is uncovered by skin. Cautious walking is allowed.

22d.—The cicatrix is firm throughout. Cured.

Dr. Göttsche attributes the bad success of the first operation partly to the irritability of the genital organs, caused by the pressure of the child's head, and the attempts to turn and to apply the forceps, and partly to the unhealthy condition of the patient's blood, depending, as he supposes, on the heaviness of her customary diet.—*Abridged from the Zeitschrift für die gesammte Medicin*, June 1837.

ST. GEORGE'S HOSPITAL.

Compound Fracture and Wound of the Knee-joint; primary Amputation — Compound Fracture into the Elbow-joint; secondary Amputation—Cancer of the Lip—Strangulated Hernia—Cataract; Extraction.

JUNE 3d.—A man was admitted, under the care of Mr. Babington, whose knee had been run over by a loaded cart, which had made a considerable wound over the condyles of the femur. When the finger was introduced, a fracture of the patella was felt by it, and a portion of bone was extracted through the wound, which proved to be a thin layer of bone, covered by cartilage, which had been broken off from the inner condyle. With this extensive injury there could scarcely be any chance of saving the man's life without amputation of the thigh, which was done soon afterwards by Mr. Babington. On examination of the joint after its removal, it was found that there was a fracture of the outer condyle also, besides the injuries already mentioned. In the following night there was considerable hæmorrhage, which obliged the house-surgeon to open the stump, and even then he had some difficulty in controlling the bleeding, which appeared to come almost entirely from the cancellous structure of the bone.

The patient was very ill for some days in consequence of this loss of blood, and the fever which subsequently attended the wound, but he has since gone on well.

June 8th.—Mr. Hawkins amputated the arm of a man, in consequence of injury of the elbow-joint, produced by the kick of a horse about six weeks previously. This had fractured the ulna partly across the coronoid process, and low enough to prevent retraction of the olecranon by the triceps, after a displacement forwards of both bones had been reduced, which was easily done. He was admitted April 27th, and went on well till May 5th, when fever and constant sickness came on, and required the enlargement of the wound leading to the fractured bone, and the free use of calomel and opium. These symptoms returned about the 12th, without any apparent mischief in the seat of the fracture, after which he went on well till the end of the month, when pain came on, with a good deal of constitutional disturbance; and on the 6th June an abscess was opened by a deep incision through the extensor muscles of the back of the forearm, and by the side of the triceps, and

such extensive disease of the joint seemed to have come on as to preclude the possibility of his bearing the irritation which it occasioned. On dissecting the parts after the amputation on the 8th June, Mr. Hawkins found the fractured parts were quite healthy, and seemed to have nearly united; but in the joint the cartilages of the ulna and humerus were nearly absorbed, and the cavity communicated with the large abscess, which had been opened in front of the joint under the muscles, and the interior of which was very foul and unhealthy.

The inflamed state of the arm prevented the union of the deeper parts, so that the stump required to be opened to give exit to pus, which formed for some distance up the arm along the vessels and nerves. This has now, however, filled up (July 20th); the wound is almost healed, with the exception of a small part leading to some dead bone, which has to exfoliate.

On the same day (June 8th) Mr. Walker removed an ulcer from the lip, which had resisted various modes of treatment, and which was thought by him to be cancerous, though it was in a much younger man than usual. A triangular portion was cut out, and the wound healed by the first intention.

June 10th.—Mr. Keate operated for strangulated hernia, at 2 A.M., in a very unhealthy female. The patient had a femoral hernia, containing intestine only, which was not very unhealthy in appearance. The next day she was exceedingly low and depressed, with cold surface, and scarcely any pulse, although the bowels had acted: seemed to be dying. She rallied partially, however, though the pulse hardly got up at all, and there came on extensive suppuration and some sloughing of the wound, after which she had much cough, as if from phthisis, and died on the 29th. There did not seem, however, on examination, to be any tubercular disease of the lungs, nor was there any visceral disease to account for her death; and it would appear that she sunk from the influence of the strangulation and subsequent foul wound upon a very debilitated constitution.

June 13th.—Mr. Hawkins operated for cataract. The patient was a stout healthy woman, 69 years of age, and was quite blind of both eyes: the right had begun to be affected three years ago, and the left only three months. The cataract in both eyes was large, and of a dull white colour; and although she says she has not had inflammation, yet she has had a dull aching pain in both eyes, and the light of a

window hurts the eyes much, especially if the pupils are dilated by belladonna. After two or three doses of aperient medicine, the right eye was submitted to the operation of extraction, which was done by the lower section, the lens coming away without any of the vitreous humour. The eyelids had acted with so much violence, and she seemed so restless, that Mr. Hawkins postponed the operation upon the other eye. In the evening of the following day much pain came on, and she was bled, and put on the use of calomel and opium. On the 16th the eye was examined, when there was found to be a good deal of conjunctival inflammation, but none affecting the deeper parts. The eye remained very sensible to light for some days, but by the 11th July she could see extremely well; the pupil was quite regular, and she was allowed to become an out-patient for the recovery of her general health, in order to have the other eye operated on.

CASE OF PARTIAL REPRODUCTION OF BONE AFTER TREPHINING.

THE patient died, aged 61, nearly three years after the operation of trephining had been performed for a severe injury to the head. A fracture had been caused by heavy blows, and extended from just above the left ear to the frontal prominence of the same side; and the upper portion of bone was depressed and firmly fixed beneath the lower. Four days after the accident the trephine was applied on the lower piece, after a longish round portion of the soft coverings of the bone had been removed, and an attempt made to elevate the depressed upper portion, which, however, only partially succeeded, though the patient regained a good deal of consciousness. Next day the trephine was applied on the upper piece, and the elevation completed; and this time also a similar piece of the soft coverings was removed. Under both holes a thin layer of coagulated blood was seen, but it was not taken away, being allowed to come out mixed with the pus freely secreted by the dura mater. The patient recovered without accident; and the openings made by the trephine, from which a long pointed splinter and several smaller pieces separated, healed in a quarter of a year. He remained two years and a half at his usual occupation, and then becoming affected with fits, headache, &c. died one day suddenly, in convulsions.

The situations where the trephine had been applied were found covered by firm membranes without hair. The dura mater was firmly united with the fractured

parts of the skull, and with the trephined portions, which were filled with a cartilaginous matter united with the external cicatrix. The skull being separately prepared, exhibited the following appearances:—

A number of fissures, extending in various directions over both the crown and base of the skull, were all filled up and united, partly by osseous matter, and partly by cartilage and membranes. The edges of the trephine holes were sharp, and sloped from the circumference towards the centre, for a breadth of three lines, so that half of each hole was filled up with radiating, centripetal, osseous fibres. The inner surface of the skull presented at these points a finely-fibrous osseous substance, growing from the inner surface of the bone, quite smooth beneath, and forming a ring about three lines broad, with an aperture about half the size of each original trephine hole.

Weissbrod points out, as matters of interest in this case, in relation to the reproduction of the bone after trephining, the age of the patient—for even in young subjects, the complete filling up by bone is said to be not common—and the probability that the chief agent in regeneration is the osseous tissue itself, and here especially the inner table; for had it been the dura mater, the entire hole might have been filled up, and the direction of the fibres of bone would not have been radiating; and the pericranium and soft parts over it were all removed. This, indeed, he thinks, may favour the production of bone, because when these tissues are left, they soon unite with the dura mater, and form a dense membrane, unfavourable to the deposition of bone. It would seem too, by the gradual decrease in the thickness of the new bone from the circumference to the centre, that the reproductive power of the bones of the skull is in proportion to their proximity to the internal surface. A further evidence against the power of the pericranium in forming new bone he advances from the fact, that where it is most firmly affixed to the skull, as at the sutures, there the osseous union of fractures most rarely and slowly takes place.—*Dr. Weissbrod in Schmidt's Jahrbucher*, May 1837.

WORMS IN THE URINARY BLADDER, SIMULATING STONE IN THAT ORGAN.

SOME time during the past summer I was requested to visit Mrs. More, a married woman, aged thirty-five, living at Hartland, in this state, for the purpose of removing a stone from her bladder. On

inquiry I found there was no absolute certainty that she was afflicted with a calculus, though she had the symptoms which attend that complaint. Her medical attendant, a highly respectable physician of Hartland, had very frequently drawn off her water by the catheter, but had never actually felt a stone, though he was confident at the time that he had felt some unusual substance, and supposed it to be a stone.

When she arrived in this city I learned from herself that she had been troubled for several years with difficulty of passing water; sometimes the difficulty was trifling, at others very great, producing great pain, fever, and often requiring the aid of the catheter. For the last six months she was compelled to have recourse to the catheter as often as once in every forty-eight hours. On sounding her, I could discover no stone, but was confident I felt some unnatural substance or tumor at the upper part of the bladder, though, after repeated examinations, I could not determine its nature or extent. I assured her there was no necessity for an operation, and as the secretion of urine was scanty, directed a diuretic mixture, and requested to hear from her again in a few weeks.

About a fortnight after this, I received a letter from her physician, stating that Mrs. M. was entirely well—that she had passed from her bladder, with considerable pain, a round white worm, about six inches long, and from that moment her complaints ceased.

She now says (though she did not mention it before) that when she was fourteen years of age, nearly a year after having had typhus fever, she was troubled with a difficulty of passing water, and then discharged a small worm about an inch long from the bladder, and in six weeks after another of the same size, which entirely removed her complaint at that time. For about four years she had no return of the difficulty, but since then—the year 1819—to the present year, she has been afflicted with it, though not until the latter part of the time has it been very severe.

In the second volume of the *Medico-Chirurgical Transactions* there is a somewhat similar case, detailed by Mr. Lawrence, and drawings of the worms given. In this case, however, several hundreds of worms were discharged from the bladder, some of them quite small, others from four to six inches in length.

Are not such cases more frequent than is generally supposed? Every practitioner of much experience must have been occasionally perplexed with cases, occurring in females, of great difficulty and pain in passing water, and other symptoms indicating stone in the bladder, but which

symptoms finally disappeared, and without his knowing the cause of their removal.

I know not of any certain remedy for such a complaint. In the case related by Mr. Lawrence the urethra was partially dilated, after the existence of worms in the bladder was accidentally ascertained by one passing the urethra; and oil of turpentine was injected into the bladder, and large doses of this medicine was administered to the patient, but without any very decided benefit, though the injections were thought to rather expedite the passage of the worms. In the case of Mrs. M., I attribute the removal of the worm to the disturbance of it by the repeated and thorough examination of the bladder which I had made a few days before it passed.—*Dr. Brigham, in American Journal of Medical Sciences.*

A FACT FOR THE PHRENOLOGISTS.

I do not know whether the following fact, taken from one of the February numbers of the Boston Medical Journal, may tend to deprive the cerebellum of some portion of its phrenological importance; neither can I guess whether the occurrence of priapism in this case (where the injury affected the spinal cord so far below the brain) may force the cultivators of phrenological science to locate at least some of their organs in extra-cranial situations.

At present the various organs that administer to our intellects, propensities, and passions, are so crowded within the skull, and are so rapidly increasing in number from year to year, that some plan must be speedily adopted to relieve the pressure from within. To avert the evil consequences of having the organs too closely packed, it may be prudent to transplant some to other parts of the nervous system. Happily nature encourages our plan, and affords abundant proofs, that the most inconveniently capacious of these organs, and that which predominates over its fellows, so as almost to monopolize the cerebellum, may be transferred without loss of vigour to the spinal marrow. That the propensity which Gall and his followers have laboured to insulate and confine within the cerebellum, extends to the spinal marrow, may indeed be proved not only by the fact I am about to cite, but by numerous cases brought every day under the observation of practical surgeons.

“J. N. (of Shrewsbury), aged about 50, a stout muscular man, weighing 220 lbs., on the 16th of November, 1830, was riding on the fore end of his ox cart, loaded with a quantity of slabs, when his team took fright and ran violently. As they were

turning round a corner in the road, in attempting to jump from the cart his foot slipped, he lost his balance, and fell. He stated that he came with his shoulders and back of the neck upon the ground; the cart striking him on the hip, doubled him over, and at the same moment cap-sized, and left part of the load resting on him. Several persons happened to be near, who immediately removed the timber that confined him in this appalling situation, and he was soon able to speak. The accident happened at six o'clock in the evening, and about one hundred rods from his house, to which he was immediately conveyed, and I saw him in twenty or thirty minutes after. He then had no power of motion, nor sensation in any part below the middle of the breast; could move the arms a little, though there was inability to direct their movements to any particular point. Respiration was somewhat embarrassed, performed principally by the diaphragm; possessed his reason perfectly; spoke but little, but tolerably distinct; pulse regular, rather feeble. At twenty minutes past eight he suddenly began to fail; pulse sunk; slight spasm of the arms; breathing after a while became stertorous, and he expired at nine o'clock. Ten minutes before death, pulse became hard, full, and slow.

“Seventeenth, at one o'clock P.M., examined the spine at the place of injury. —Externally, large contusion on back of neck at top of the shoulders. On cutting down to the spine at this point, a large quantity of extravasated blood flowed from the spinal canal and the parts about the wound. Found the spinous and transverse processes of the sixth cervical vertebra separated from the body of the bone, and broken into several pieces. The body of the vertebra was dislocated forward, so far as to crush the spinal marrow over the posterior edge of the body of the vertebra below. It is remembered that the patient referred to his back, some inches below the injury, as the seat of all his sufferings; and also that there was priapism.”—*Dr. Graves, in Dublin Journal.*

ALBUMINOUS URINE.

WITH some exceptions, English pathologists now seem agreed in considering albuminous urine in dropsy as the result of certain changes to which the structure of the kidney is liable. In my public lectures I have enumerated the reasons which have prevented me from subscribing to this opinion, and have mentioned a striking case where the urine was permanently and highly albuminous, and yet the kidneys were in every respect healthy. Indeed it

is very difficult to conceive how alterations in the structure of the renal tissue, so different as (what is supposed to be) the first stage of Bright's disease, and the last, can have precisely the same effects on the composition of the urine. The maxim *quod nimium probat nil probat*, may be here applied: it is asserted that a coagulable state of the urine is always accompanied by an evident alteration in the renal tissue. Thus in recent cases the coagulable urine is said to be produced by engorgement of the kidneys, or by an *inflammatory disposition** in those organs, while the dissections of Osborne, Gregory, Bright, and others, prove, by hundreds of examples, that this state of the urine in chronic dropsy is connected with a peculiar alteration of the renal tissue, generally called after that distinguished physician, Doctor Bright. Now, as the engorged or inflamed kidney exhibits every thing connected with structural alteration in the very reverse state from that which accompanies Bright's kidney, it is difficult to conceive how changes of structures so different from each other can give rise to one and the same effect. In the former, the kidney is unnaturally distended, and gorged with red blood, whereas in the latter the structural disease consists in hypertrophy of the white parts and proportional atrophy of the red. If, then, in dropsy, we find that albuminous urine occurs, sometimes accompanying the one state of kidney, and sometimes the other, is it not more rational to suppose that this alteration in the urine arises from the operation of some general cause, rather than from structural derangements so very different. For my own part, I am persuaded that albuminous urine may coincide with widely different states of the kidney; and that like saccharine urine, it depends not so much on changes in the immediate organ of secretion as in the general system of nutrition and sanguification. In saccharine diabetes the urine, at certain stages of increase or decrease of the disease, is frequently highly loaded either with albumen or animal matter closely allied to it, and yet no two states of kidney can differ more from each other than does Bright's kidney from the kidney of diabetes mellitus. In dropsy, a disease in which so great a tendency to the secretion of albuminous fluids exists, that the action of secreting such a fluid is often suddenly assumed by various tissues, there seems no necessity for supposing that structural alteration in the kidneys must precede the secretion of albuminous urine; the cellular, serous, and similar tissues, secrete hydropical fluids in abundance, and if this power of separating albuminous matter from the blood be accom-

plished with such facility by tissues so simple, there can be little doubt that a similar power may be easily superadded to the common functions of the kidney.—*Ibid.*

DR. THOMSON IN REPLY TO DR. HAVILAND.

To the Editor of the Medical Gazette.

SIR,

MY attention has been directed to a letter from Dr. Haviland, of Cambridge, published in the MEDICAL GAZETTE of the 22d July, in which he brings one *echo* and two *accusations* against me. The echo is the word misstatement,—the accusations are, 1st, quoting his evidence before the Committee of the House of Commons, and misunderstanding it; and 2d, making assertions, and conveying erroneous impressions, in a letter which I wrote to the Editor of the *Morning Chronicle* in answer to Professor Henslow's contradiction of some statements contained in the British Annual. I do not consider it necessary to prove by any lengthened arguments that the term misstatement, in reference the British Annual, has been re-echoed by Dr. Haviland without a shadow of justice (I had almost said candour), further than to observe, that those who will consult the letter in question will find that I have shown that Professor Henslow has merely contradicted my statements, and so far from neutralising them, has supplied data which confirm them, and which have assisted me in proving,—1st, that of 54 Professors and functionaries connected with the English Universities, 27, or one-half, never lecture at all, and that the remaining 27 only lecture if they can get classes; 2d, that upon the authority of the most distinguished man of science at Oxford, the attendance on lectures "is wholly prevented by the interference with them of the tutor's lectures in Colleges;" and 3d, that the medical and scientific education at the English Universities is wholly defective and inefficient, and demands an immediate and thorough reform;—so much for the echo. I now proceed to the accusations.

1. Quoting his evidence and misunderstanding his statements. I candidly confess that I could not reconcile some incongruities in the evidence of Professor Haviland, nor can I affirm that his statements are sufficiently satisfactory to me at the present time: perhaps they may be so to your readers. I have stated that according to his evidence "attendance on anatomy is not required for a degree." He affirms that he "certainly never said

* Brit. and For. Med. Rev., April 1837, p. 309.

this or any thing like it," and then he quotes a number of paragraphs "to show what he did say;" but by an unusual mode of leading proof, he stops where he ought to begin. If, instead of breaking off at question 3867, he had gone on to 3877, he would have read as follows:—

"At what schools, and for how long a time, must the candidate for a degree have dissected?—That is left to the discretion of the Professor of Anatomy. There is no regulation to enforce any attendance on lectures on anatomy or dissections." If this does not imply what I imputed to Dr. Haviland, at least it looks very "like it."

It is stated in my letter to the Editor of the *Morning Chronicle*, that "on candidates keeping the exercises in the schools, the examination is quite at the discretion of the Professor of Physic." Dr. Haviland quotes a portion of his evidence, in order I suppose to shew, as in the previous instance, what he did say; but, as before, his extract terminates where it ought to have commenced. Questions 3928 and 3929 are as follow:—

"From the year 1818 down to the present time, how many candidates for the degree of bachelor of medicine have annually been examined, and approved or rejected?—I have a list here of all the persons who have taken degrees from 1818 to the present time; the total number is 96. I keep no record of those who have been rejected. I have endeavoured to recollect, and I cannot call to mind above five during the period. But I purposely avoid keeping any record of it; I wish to forget it as soon as the examination is over; for the same men have come subsequently, and have done themselves great credit.

"On their keeping the exercises in the schools, what is the nature of the examination they undergo?—It is quite at the discretion of the Professor of Physic."

I cannot but understand this as referring to an examination for a degree, from what precedes and follows it; and as the Professor of Physic has the discretionary power of examining or not as he pleases, and as the candidates must have been previously his own pupils, I think the inference is pretty obvious, that this may not be an unfrequent mode of examination, but is a very dangerous one, and ought not to exist in any institution.

2. What Dr. Haviland has termed *assertions*, have been already dealt with when considering his *echo*. There is one, however, which still remains to be noticed: I have asserted, Dr. Haviland says, "that no individual can be elected a Fellow of the London College of Physicians, unless he has graduated at the Universities."

The Doctor says that I reason upon this as if ignorant of the changes which have taken place in the constitution of the College. This assertion is only correct if the Havilandic, or stop-short method of proof, which is very distinct from the mathematical and logical methods hitherto in use, is adopted. For I have stated immediately afterwards, "It is true that the Fellows have lately overstepped this regulation, and have elected persons who were not graduates of these Universities, but who, by a curious coincidence, were *all* Tories. This is remarkable, because it is a general observation that *most* men of science are Reformers." This practice, however, is not without its precedent; for a similar custom has long prevailed at the convent of St. Catherine's, on Mount Horeb, in the sandy desert of Arabia. This convent is quite destitute of the usual media of ingress. When any traveller arrives at the base of its unportaled mason-work, he hails the dormant inmates. His signal is tardily answered by the fat, sleeky monks, who appear at the summit of a precipitous wall, and reconnoitre him with all their practised cunning. If his appearance is unsatisfactory, they bid him begone; but if, on the contrary, he presents an aspect of simplicity, and answers them with flattering and submissive words, they instantly let down a basket by means of a rope; and having hoisted him up, conduct him to their refectory, where he enjoys, even to surfeiting, along with his entertainers, the monopoly of the contents of their pantry and wine-cellar.

I have now disposed of the echo, and the two accusations of Dr. Haviland. I trust I have convinced your readers that what the Doctor has termed *assertions*, are facts; and hence that the impressions arising from them, alleged to be erroneous must be correct, if properly deduced.

Dr. Haviland terminates his letter with the information that large sums of money have been lately expended at Cambridge, in buying land for a Botanic garden, in erecting new class-rooms, and in purchasing a splendid collection of anatomical preparations. What a pity that the first outlay had not been devoted to effect the removal of the objectionable regulations which confine the enjoyment of the advantages and privileges of the University to the richest part of the community, and to a particular religious sect! Suppose a nation were to entrust to persons of received credit the charge of a fine piece of pleasure ground, which it richly supplied with money, for the purpose of being properly cultivated for the recreation of the nation. Suppose the people to have had their attention attracted to some other object, and that while all are apparently intent on

its acquisition, a cunning portion takes possession of the public ground, and builds a wall several thousand feet high around it, without preserving any mode of ingress. The people collect at the bottom of the wall and demand admittance; the cunning inmates, alarmed at the just indignation of the people, appear occasionally at the summit of the wall, and strive to appease them by endeavouring to prove that the money is well taken care of within—that new sources of enjoyment are in the act of being formed—and that those who wish to gain admittance, can readily do so by erecting expensive machinery, which shall enable them to scale the wall. How long does Dr. Haviland suppose that the wall, supposing it to be twice as thick as that of China, would withstand the pressure from without?—I am, sir,

Your obedient servant,

ROBERT D. THOMSON.

20, Gower-Street, July 24, 1837.

SECOND REPORT
OF THE
POOR-LAW COMMITTEE
OF THE
PROVINCIAL MEDICAL AND SURGICAL
ASSOCIATION.

Read at Cheltenham, July 20, 1837.

[Communicated by Mr. Rumsey.]

THE Poor-law Committee having been requested once more to direct their attention to the present state of the question of parochial medical relief, submit the result of their deliberations to this meeting of the Association.

Seeing that the evils detailed in the Report of last year continue unabated, notwithstanding the steps taken by this Association, and by the profession at large, your Committee deem it highly important at the present juncture, that energetic measures should be pursued to urge this matter upon the attention of the legislature and the public, until a parochial or national system of medical relief be settled upon a basis equally humane to the poor, and just to medical practitioners.

With a view effectively to make known the opinions and feelings of this Association, your Committee recommend that personal and written communications be made by members of the Association, in every locality, to their respective representatives in parliament; also that petitions be presented immediately on the assembling of parliament, praying for a *special*, full, and impartial inquiry into the subject

of medical relief for the poor, and for the production of official returns of all medical contracts made under the new law—of the number of practitioners appointed to the care of the sick poor, as compared with those under the former system—of the extent of districts entrusted to medical officers—of the amount of their salaries—the mode of their appointment—the number of patients attended, and visits performed by each medical officer. Lastly, that a plan for an amended system be prepared and placed in the hands of some influential members of the legislature, who might be disposed and able to undertake the management of the question in both Houses of Parliament.

If, after the adoption of these measures, there be not a fair prospect of redress by Parliament, it is the opinion of your Committee that members of this Association ought no longer to sanction a system alike degrading to themselves, and cruel and delusive to the sick poor: to use the words of the last Report, they ought “firmly to decline any participation in the medical appointments of the new Poor-law.”

If the profession had been true to itself, and if medical men had in private acted up to those declarations which they have so strenuously made in public, the matter would have long ago been equitably arranged; but whilst unprofessional, mean, and selfish conduct, in so many instances continues to disgrace our body, we cannot wonder that the authorities should take advantage of such delinquencies to effect their ill-judged projects of economy.

The influence of this Association ought to be exerted upon its members, to induce them not to swerve from those admirable professional principles by which we profess to be actuated.

Your Committee, in thus bringing their labours to a conclusion, cannot refrain from expressing a confident hope that the subject which has for so long a period engaged their attention, will be prosecuted to a successful issue by the energies and decision of the Association; and they have much satisfaction in resigning the further conduct of this matter into the hands of the Committee of this Association, which has just been appointed “to watch over the interests of the profession at large, and to suggest to the Council, from time to time, such measures as appear to them necessary to meet circumstances as they arise.”

The legal provision of medical relief for the poor is of too much importance, in all its bearings, to escape their vigilant attention.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns up to Tuesday, July 25, 1837.)

	PRICE.						DUTY.	DUTY PAID	
	£	s.	d.	£	s.	d.		In 1837 to last week.	Same time last year.
Aloes, Barbadoes, D.P. c	12	0	0	to 30	0	0	} B P. lb 0 2 F. lb 0 8	42,862	65,960
Hepatic (dry) BD. c	5	0	0	14	0	0			
Cape, BD. c	1	10	0	1	16	0	F. lb 1 4	251	952
Aniseed, Oil of, German, D.P. lb	0	9	6	0	9	6	E. I. 1 4	780	223
E. I. lb	0	7	0	0	7	6	c 6 0	12	62
Assafoetida, B.D. c	0	2	10	0	5	0	lb 0 1	1,350	1,312
Balsam, Canada, D.P. lb	0	1	3	0	1	4	c 4 0	138	149
Copaiba, BD. lb	0	2	7				lb 1 0	346	1,433
Peru, BD. lb	0	5	0				c 4 0	70	37
Benzoin (best) BD. c	25	0	0	50	0	0	c 1 0	281	208
Camphor, unrefined, BD. c	9	0	0				lb 1 0	15,780	11,775
Cantharides, D.P. lb	0	5	6				lb 4 0	1,135	1,034
Carraway, Oil of, D.P. lb	0	9	0				lb 0 1	2,096	3,499
Cascarilla or Eleutheria Bark, D.P.C. lb	1	15	0				lb 1 4	2,026	3,032
Cassia, Oil of, BD. lb	0	9	0				c 1 3	} 4,374	3,460
Castor Oil, East India, BD. lb	0	0	6	0	0	10			
West I. (bottle) D.P. 1½ lb	0	2	3				} lb 0 6	147	691
Castoreum, American lb	1	15	0						
D.P. Hudson's Bay lb	1	0	0	1	4	0	c 1 0	17,653	5,828
Russian lb				none			} lb 0 1	97,171	71,240
Catechu, BD. c	1	0	0						
Cinchona Bark, Pale (Crown) lb	0	2	0	0	3	6	} lb 0 2	6,089	9,549
BD. Red lb	0	3	0	0	6	0			
Yellow lb	0	1	2	0	1	3	lb 0 2	8,812	8,861
Colocynth, Turkey lb	0	2	6	0	4	0	lb 0 6	19,800	13,827
D.P. Mogadore lb	0	3	0				c 4 0	53	61
Calumba Root, BD. c	1	4	0	2	5	0	c 4 0	353	190
Cubebs, BD. c	3	0	0				c 6 0	52	8
Gamboge, BD. c	5	0	0	15	0	0	} c 6 0	2,042	6,877
Gentian, D.P. c	1	4	0						
Guaiacum, D.P. lb	0	1	0	0	1	8	} c 6 0	1,137	2,219
Gum Arabic, Turkey, fine, D.P. c	8	0	0	9	0	0			
Do. seconds, D.P. c	5	0	0	7	0	0	c 6 0	523	2,699
Barbary, brown, BD. c	3	19	0				lb 0 1	285	197
Do. white, D.P. c	4	15	0				lb 1 0	5,194	19,901
E. I. fine yellow, BD. c	3	0	0	3	10	0	lb 0 6	6,820	6,136
Do. dark brown, B.D. c	1	15	0	2	5	0	lb 0 6	36,991	27,897
— Senegal garblings, D.P. c	4	15	0	5	0	0	} lb 0 3	14,793	6,883
— Tragacanth, D.P. c	13	0	0	20	0	0			
Iceland Moss (Lichen), D.P. lb	0	0	2½	0	0	3	oz 6 0	10,69	641
Ipecacuanha Root, B.D. lb	0	3	0				} c 6 0	92	97
Jalap, BD. lb	0	1	6	0	1	7			
Manna, flaky, BD. lb	0	5	0				lb 2 6	1,120	859
Sicilian, BD. lb	0	1	7				lb 1 0	17,931	15,554
Musk, China, BD. oz	1	0	0	1	8	0	lb 4 0	594	302
Myrrh, East India, BD. c	5	0	0	14	0	0	lb 0 1	122,909	163,607
Turkey, BD. c	2	0	0	11	10	0	lb 1 0	23,334	24,455
Nux Vomica, BD. lb	0	8	0	0	9	0	} F. lb 1 0	3,805	4,205
Opium, Turkey, BD. lb	0	15	0	0	15	6			
Peppermint, Oil of, F. BD. lb	1	0	0				lb 1 0	32,55	2,561
Quicksilver, BD. lb	0	3	7				lb 0 6	65,909	69,239
Rhubarb, East India, BD. lb	0	2	0	0	3	6	} lb 2 6	5,025	4,022
Dutch, trimmed, D.P. lb	0	3	6	0	4	6			
Russian, BD. lb	0	8	3				E. I. lb 0 6	57,762	51,081
Saffron, French, BD. lb	0	18	0	0	19	0	} Other sorts 0 6	36,679	41,884
Spanish lb	1	1	0						
Sarsaparilla, Honduras, BD. lb	0	1	0	0	1	9			
Lisbon, BD. lb	0	2	0						
Scammony, Smyrna, D.P. lb									
Aleppo lb	0	12	0	0	15	0			
Senna, East India, BD. lb	0	0	3	0	0	4			
Alexandria, D.P. lb	0	1	6						
Smyrna, D.P. lb	0	1	0	0	1	3			
Tripoli, D.P. lb	0	1	0	0	1	3			

‡§‡ BD. In Bond. — c. Cwt. — B. P. British Possessions. — F. Foreign. — D. P. Duty paid.

M. KRAUSE ON THE THYMUS GLAND.
THE author has by no means found that the view generally received of the diminution and total disappearance of the thymus gland after the age of 12 years is confirmed by observation; for in nearly all the individuals of from 20 to 30 years old whom he examined, he found it well developed, and often larger than in young children. In persons of from 30 to 50, he has seen it of considerable size, and reddish brown remains of it in others, even above the latter age. In young persons it generally retains its bilobate form, but its diminution seems to take place at its middle part, so that sometimes its upper and lower horns are only connected by cellular tissue. He has never observed any relation in the altering sizes of the renal capsules and thymus gland. The average weight of the latter in persons of between 20 and 30 seem to be 274½ grains, and in well-grown mature foetus, 190 grains, but often much less; in one that died of thymic asthma, it was 440 grains.—*Müller's Archiv.*

COMPOUNDS OF ALBUMEN WITH THE BI-CHLORIDE OF MERCURY.
It has been long known that the bi-chloride of mercury forms remarkable compounds with animal substances, and especially with albumen; which led Orfila to propose the white of eggs as an antidote. M. Lassaigue has made some investigations as to the nature of these compounds, and finds—1st, that albumen combines immediately with the bi-chloride of mercury, without decomposing it; 2d, that the compound of the two is soluble in cold solutions of the chlorides, bromides, iodides, and alkalies; 3d, that the compound consists of two atoms of albumen to one of the bi-chloride; 4th, that the solubility of this compound in solutions of common salt should induce physicians, when they employ the white of eggs as an antidote, to employ an emetic very soon, in order to prevent the compound formed by the bi-chloride and the albumen being dissolved by the salt which is introduced into the stomach along with the food.—*Journal de Chimie Médicale.*

BOOKS RECEIVED FOR REVIEW.
Medical Relief for the Labouring Classes, on the Principle of Mutual Insurance. By H. W. Rumsey, one of the Surgeons of the Chesham Self-supporting Dispensary, and Fellow of the Royal Medical and Chirurgical Society.
Hooper's Physician's Vade-Mecum. By Dr. Ryan.
Alfred Societies; or, a Plan for very

small Sick Clubs. By H. L. Smith, Southam.
An Exposition of the Signs and Symptoms of Pregnancy, &c. &c. By W. F. Montgomery, A.M. M.D. M.R.I.A., &c.
The Philosophy of the Eye; being a Familiar Exposition of its Mechanism, and of the Phenomena of Vision, with a View to the Evidence of Design. By John Walker, Lecturer on the Eye at the Manchester Royal School of Anatomy and Medicine. With numerous Illustrations.

APOTHECARIES' HALL.
LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.
Thursday, July 27, 1837.
John Smith, of Nottingham.—Charles Rendall, of Merriott.—G. E. L. Bampton, of Plymouth.—John Ward, of Kilpin Pyke, Yorkshire.—William B. Gaskell, of Liverpool.—Terence Benson, of Roscommon.—Argent Blundell, of Botley.—Frederick Warner, of Botley.—James Fernandez Clarke, of London.—John James Mallett.

WEEKLY ACCOUNT OF BURIALS,
From BILLS OF MORTALITY, July 25, 1837.

Abcess	3	Inflammation	13
Age and Debility	42	Bowels & Stomach	17
Apoplexy	7	Brain	3
Asthma	4	Lungs and Pleura	2
Cancer	2	Influenza	1
Childbirth	6	Insanity	5
Consumption	73	Jaundice	2
Convulsions	34	Liver, diseased	3
Dropsy	15	Measles	25
Dropsy in the Brain	3	Miscarriage	2
Epilepsy	1	Mortification	3
Erysipelas	2	Paralysis	5
Fever	14	Small-pox	5
Fever, Scarlet	6	Sore Throat and	
Fever, Typhus	2	Quinsey	1
Fistula	1	Unknown Causes	26
Heart, diseased	2		
Hooping Cough	12	Casualties	8
Increase of Burials, as compared with } the preceding week } 153			

METEOROLOGICAL JOURNAL.
*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

July.	THERMOMETER	BAROMETER.
Thursday . 20	from 46 to 67	29·78 to 29·84
Friday . . 21	42 69	29·92 29·98
Saturday . 22	40 75	29·98 Stat.
Sunday . . 23	40 74	29·97 29·95
Monday . . 24	45 73	30·01 30·03
Tuesday . . 25	46 75	30·02 Stat.
Wednesday 26	52 76	30·01 Stat.

Wind, N.W.
Except the afternoons of the 23d and 26th, generally clear: rain on the afternoon of the 20th and evening of the 23d.
Rain fallen, ·075 of an inch.
CHARLES HENRY ADAMS.
WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, AUGUST 5, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXVIII.

BURSERACEÆ.

THERE are only three genera of this family which I think it necessary to notice; these are *Balsamodendron*, *Boswellia*, and *Icica*.

Balsamodendron Myrrha.

History.—The earliest notice of myrrh, that I am acquainted with, occurs in the Old Testament (Gen. chap. xxxvii. ver. 25), from which it appears that this gum-resin was an object of trade with the Eastern nations more than 3500 years ago. In the Hebrew language it is termed *Mur*, in allusion to its bitterness.

The Greeks, who were well acquainted with it, called it *Σύμυρα*, or, in the Æolic dialect, *Μύρρα*. Hippocrates employed it in medicine in several diseases; and Dioscorides describes several kinds of it, the most esteemed being the *Troglodytica*.

Some of the ancient poets tell us that the name of this gum-resin was derived from Myrrha, the daughter of Cinyras, King of Cyprus, who fell in love with her own father, and after having had criminal intercourse with him, fled to Arabia, where she was changed into a tree which still bears her name.

Notwithstanding the early knowledge of, and acquaintance with, the uses of myrrh, we had no accurate account of the tree which yields it, until the return of Ehren-

berg from his travels with Hemprich, during 1820–25, in various parts of Africa and Asia, and who brought with him a specimen of the tree, which has been described by Nees von Esenbeck under the name of *Balsamodendron Myrrha*. The first notice of this discovery of these travellers which I have met with, is in Alex. Humboldt's "*Bericht über die Naturhistorischen Reisen der Herren Ehrenberg und Hemprich*," &c. published at Berlin in 1826.

Botany.—*Balsamodendron Myrrha* is a shrubby tree, growing in Gison, on the borders of Arabia Felix. The branches terminate in spiny points; the bark is of pale ash-grey colour, approaching white; the wood is yellowish-white, and, as well as the bark, has a peculiar odour. The leaves are ternate, and stand on short stalks; the leaflets are obovate and obtuse, more or less toothed, smooth; the lateral ones smaller than the terminal one. The flowers are at present unknown. The fruit is supported on a very short stalk; it is ovate, acuminate, smooth, brown, somewhat larger than a pea, and surrounded at the base by a four-toothed calyx.

Exudation.—Myrrh, like the gum of the cherry-tree, exudes from the bark of the tree. It is at first soft, oily, and of a pale yellow colour; but by drying, becomes darker and redder.

Physical properties and varieties.—It is imported in chests (each containing from one to two hundred weight), from the East Indies. Formerly the finest kind was brought from Turkey, and a commoner variety only from the East; at the present time nearly the whole of it comes from India. Sometimes the same chest contains myrrh of all qualities, which is then termed *Myrrh in sorts* (*Myrrha naturalis seu Myrrha in sortis*). But commonly it is brought over already more or less sorted. I have met with three varieties as imported.

1. *First quality.*—As this is the kind

which was formerly imported from Turkey, it is still frequently called *Turkey Myrrh* (*Myrrha turcica*). It is called by some *true, red, or fatty Myrrh* (*Myrrh vera, seu rubra, seu pinguis*). It is in pieces, of irregular forms and of variable sizes, and which consist of tears (either distinct or agglomerated), usually covered with a fine powder or dust. In a chest of it a few pieces of fine quality may sometimes be met with, nearly as large as a man's fist. The colour varies, being pale reddish yellow, red, or reddish-brown. The pieces are fragile, semi-transparent, with a dull, in part splintery, fatty kind of fracture. In consequence of imperfect desiccation the largest and finest pieces often present internally, opaque, whitish or yellow striae, or veins, which have been compared by Dioscorides, Pliny, and many others, to the white marks on the nails. The odour of myrrh is aromatic and balsamic, peculiar, but to most persons pleasant; the taste is bitter, acrid, and aromatic.

Druggists generally select out the purest, palest, and most odorous pieces, which they sell under the name of *picked Myrrh* (*Myrrha electa seu M. selecta*).

Second quality: Myrrh in distinct small tears or grains.—This variety is also imported from the East Indies in chests. It consists of distinct tears or grains, which are rounded or angular, and vary in size

from that of a pin's head to a peppercorn, none of them in my specimen being so large as a small grey pea. They are somewhat shiny, more or less transparent, and vary in colour from pale or whitish-yellow, to reddish-brown. This kind appears to me to consist of tears of myrrh intermixed with fragments of gum arabic, and of some resin very like mastic, or juniper. I presume it to be the kind called by Martius *Myrrha in granis*, by Geiger *Myrrha in granis seu lachrymis*. Many druggists in this country regard it as merely the siftings of the finest kind, but I cannot agree with them in this opinion.

Third quality.—Formerly this was the only kind imported from India, and hence it was distinguished by the name of *East Indian Myrrh* (*Myrrha ostindica*), a denomination which it still frequently bears. It occurs in pieces, which are darker coloured than those of the so called Turkey myrrh, and whose average size does not exceed that of a walnut. It is often mixed with other substances, particularly with *Indian Bdellium* (the produce of *Amyris Commiphora*), and with a substance of similar appearance to dark red-coloured Senegal gum (query—*Opocalpasum*?)

Chemistry.—Three analyses of myrrh have been published—the most complete being that of Brandes.

	Brandes, (1819.)	Braconnot, (1819.)	Pelletier, (1816.)
Volatile oil	2.60	2.5	34
Resin { soft	22.24	23.0	
{ hard	5.56	}	
Gum { soluble (<i>Arabine</i> ?)	54.38	46.0	66
{ insoluble (<i>Bassorine</i>)	9.32	12.0	
Salts (benzoates, malates, phosphates, sulphates, and acetates of potash and lime)	1.36	....	..
Impurities	1.60	....	..
Loss ..	2.94	16.5	..
	100.00	100.0	100

The *volatile oil of myrrh* is, according to Brandes, colourless, though by age it becomes yellowish. It is a thin fluid, heavier than water, having the odour and taste of myrrh, and being soluble in alcohol, æther, and the fixed oils. It partially evaporates in the air, the residue being a glutinous varnish-like substance. It readily distils over with water, but not with spirit. With sulphuric, nitric, and hydrochloric acids, it forms red solutions.

The *resin of myrrh* is, according to Brandse, of two kinds, one odorous, soft

at ordinary temperatures, and soluble in æther; the other inodorous, hard, and insoluble in æther. Both dissolve readily in alcohol. Unverdorben considers the soft resin to be a mixture of the hard resin and volatile oil. The hard resin dissolves in the caustic alkalies, forming resinates; the resinate of baryta is soluble in water, but not in alcohol.

The *gummy matter of myrrh* is of two kinds; one soluble in water, the other (*bassorine*) insoluble. The aqueous solution is precipitated white by alcohol, by

the salts of lead and silver, and by the protosalts of tin and mercury.

Solubility.—It must be evident, from what has been stated, that myrrh is only partially soluble in water, alcohol, or æther, since neither the gum nor the resin is soluble in all of these liquids. Water, however, takes up more myrrh than alcohol does. When the alcoholic tincture is mixed with water, an opaque, milky liquid is formed, but no precipitate. The liquid alkalies are solvents for myrrh.

Tests.—According to Bonastre, myrrh may be distinguished from some other gum-resins, with which it is apt to be confounded, by nitric acid, which, by acting on the volatile oil of myrrh, develops a rose colour, which changes to red, and afterwards to the colour of wine-lees or of violets. These colours may be produced by the action of a few drops of nitric acid on a small fragment of myrrh, or on a concentrated tincture.

Physiological effects.—Taken in small or moderate doses, it promotes the appetite, creates an agreeable warmth in the stomach, and occasions slight constipation. Its continued employment in these quantities assists the assimilative functions, increases the muscular activity, gives greater firmness to the solids, and diminishes excessive secretion from the mucous membranes.

In large doses (as from half a drachm to a drachm) it excites a disagreeable sensation of heat in the stomach, and in irritable conditions of this viscus may even bring on a slight inflammatory state; it accelerates the frequency and increases the fulness of the pulse, gives rise to a febrile condition of body, and creates a feeling of warmth in the mucous membranes (especially in the membrane lining the air passages.) It has been supposed to have a specific stimulant operation on the uterus, and has, in consequence, been termed emmenagogue, but it does not appear to have any title to this appellation.

The local operation of myrrh is that of a mild astringent and a moderate stimulant. Kraus says it is very similar to that of cinchona. In its remote effects myrrh partakes of both the tonic and stimulant characters, and hence some have denominated it a *tonico-stimulant*; and as its stimulant powers are analogous to those of the balsams, it has also been called a *tonico-balsamic*.

Myrrh differs from the foetid gum resins (asafœtida, galbanum, &c.) in not possessing that influence over the nervous system which has led to the use of the latter in various spasmodic diseases, and to their denomination of antispasmodics. From the balsamic substances it is dis-

tinguished by its tonic influence. It has some relation to cascarilla, but is more stimulant. It is devoid of the acrid properties of gamboge, euphorbium, scammony, &c.

Uses.—Myrrh is indicated in diseases characterised by feebleness of vascular action, by weakness of the muscular fibre, and by excessive secretion from the mucous membranes. Relaxed and leucophlegmatic constitutions best admit of its employment. It is contra-indicated in inflammatory diseases, and in plethoric individuals. It is used in the following cases:—

1. *In disordered conditions of the digestive organs* arising from or connected with an atonic condition of the alimentary canal, as in some forms of dyspepsia, apepsia, flatulence, &c.

2. *In disordered states of the menstrual functions* characterised by a lax and debilitated state of system, as in many cases of amenorrhœa and chlorosis.

3. *In excessive secretion from the mucous membranes* unconnected with inflammatory symptoms, and accompanied by marks of debility. In chronic pulmonary catarrh, for example, it is sometimes admissible and useful. It has also been used to check puriform expectoration in phthisis pulmonalis, though it is now rarely employed for this purpose. In mucous discharges from the urino-genital organs, as well as from the alimentary canal, it has also been administered.

4. *As an external application*, myrrh is employed for various purposes. Thus it is used as a *dentrifice*, either alone or mixed with other substances; and in caries of the teeth, and in a spongy or ulcerated condition of the gums, is very serviceable. As a *gargle* in ulcerations of the throat, tincture of myrrh, diluted with water, is frequently employed. In *foul ulcers*, myrrh has been used to destroy unpleasant odour, to promote granulations, and to improve the quality and diminish the quantity of the secreted matters: for these purposes it has been applied in a pulverent form, as an ointment, or as a wash.

Administration.—In substance (in a pulverent or pilular form) myrrh is administered in doses of from ten grains to half a drachm. It is, however, seldom used alone, but generally in combination with tonics, stimulants, or purgatives. Thus it is a constituent of the *compound iron pills*, the *pills of aloes with myrrh*, the *compound pills of galbanum*, and the *compound pills of rhubarb*.

Myrrh may also be given *suspended* or *dissolved* in water. In this way it is administered in the *compound iron mixture* and *compound decoction of aloes* of the London Pharmacopœia. There is no

formula in the British Pharmacopœias for a simple decoction or mixture of myrrh.

The *tincture of myrrh* is prepared with rectified spirit. It is used both internally and externally. For internal employment, it is given in doses of half a drachm or a drachm. It is applied to foul indolent ulcers, and when diluted with water, is used, as already mentioned, as a gargle. Myrrh is a constituent of the *compound tincture of aloes*, formerly called the *Elixir Proprietatis*.

Balsamodendron Gileadense.

History.—This is supposed to be the tree from which the *balm*, or *balm of Gilead* of Scripture, was procured. It is the *Βάλσαμον* of Theophrastus and Dioscorides, both of which writers tell us the leaves were similar to those of rue.

Botany.—It is a middling-sized tree, with ternate, rarely quinate leaves, entire leaflets, flowers growing singly, and drupaceous fruit.



FIG. 192.—*Balsamodendron Gileadense.*

This genus belongs to class *Octandria*, order *Monogynia*, of the Linnean arrangement.

The *Balsamodendron Opobalsamum* is by some regarded as a variety merely of the *B. Gileadense*, by others as a distinct species. It differs principally in having pinnate leaves, with more acute leaflets.

From the bark, wood, and fruit, a liquid resin is procured. That from the bark is termed *Balsam of Mecca*, *Balm of Gilead*, or *Opobalsamum*; and that from the wood is called *Xylobalsamum*; and lastly, the resin obtained from the fruit is denominated *Carpobalsamum*.

Production of balm of Gilead.—Mr. Bruce says that balm of Gilead is procured by cutting the bark with an axe, and receiving the juice in a small earthen bottle. The quantity obtained in this way, however, is so small, that none of it, we are told, ever reaches us. That which we meet with is said to be procured by boiling the branches and leaves in water.

Composition.—It has been analysed by Trommsdorf, and found to contain—

Volatile oil	30.0
Resin insoluble in alcohol.....	4.0
Resin soluble in alcohol	64.0
Extractive	0.4
Loss	1.6
	<hr/>
	100.0

Effects.—Its physiological effects are believed to be similar to balsam of Copaiva, and the liquid turpentine. Formerly, however, it was supposed to possess the most wonderful properties.

Uses.—It is rarely or never employed by Europeans, but it is adapted to the same cases in which we administer the turpentine. By the Asiatics it is employed both for its odoriferous and medicinal qualities.

Boswellia serrata.

History.—Olibanum was the Frankincense used by the ancients in their religious ceremonies. It is the *Lebonah* of the Hebrews, the *Lubán* of the Arabs; from either of which terms the Greeks probably derived their names for it, *Λίβανος*, *Λιβανωτὸς*.

Botany.—*Boswellia serrata* (the *B. thurifera* of Roxburgh) is a large timber tree, a native of Coromandel and other parts of Hindostan. The leaves are oddly-pinnate, with opposite, ovate, serrate leaflets. The polypetalous flowers are disposed in axillary racemes. The fruit is a three-cornered, three-celled capsule.

It belongs to class *Decandria*, order *Monogynia*, of the Linnean arrangement.

Two substances are known to pharmacologists by the name of Olibanum: one of these is an exudation from the stem of *Boswellia serrata*; the origin of the other has not hitherto been satisfactorily determined.

1. *Indian Olibanum*: Olibanum of the *Boswellia serrata*.—This is the Olibanum of the shops; it is brought from India in chests. It consists of round, oblong, or ovate, pale-yellowish, semi-opaque, fragile tears, having a balsamic resinous odour.

2. *African or Arabian Olibanum*.—This is rarely met with. It consists of smaller tears than those of the Indian variety. These tears are yellowish or reddish, and are intermixed with crystals of carbonate of lime. Some have supposed it was the produce of some species of *Juniperus*; others have referred it to the genus *Amyris*; and some to *Boswellia glabra*, which Roxburgh says yields a substance used as an incense, and a pitch, in India.

Chemistry.—Braconnot has analysed Olibanum (query, Indian or African?), and found the constituents to be—

Resin soluble in alcohol	56·0
Gum soluble in water	30·8
Residue insoluble in water and alcohol	5·2
Volatile oil and loss	8·0
	<hr/> 100·0

Physiological effects. — Olibanum is regarded as a stimulant of the same kind as the balsams.

Uses.—It is rarely employed internally. Formerly it was used to restrain excessive discharges from the mucous membranes. Thus it was given in chronic diarrhœa, old catarrhs, but more especially in leucorrhœa and gleet. It was also administered in affections of the chest, as hæmoptysis.

It has been used as an ingredient of stimulating plasters. Thus it is a constituent of the *emplastrum aromaticum* of the Prussian Pharmacopœia.

As a fumigating agent it is employed to overpower unpleasant odour, and to destroy noxious vapours.

Administration.—It may be taken internally in doses of half a drachm or a drachm, formed into an emulsion with the yolk of an egg.

Icica Icicariba.

This tree was mentioned by Piso and Marcgrav, under the name of *Icicariba*. It is the *Amyris ambrosiaca* of Linneus.

It is a lofty tree, with a smooth grey bark, and pinnate leaves, composed of from three to five oblong acuminate leaflets. The small, white, nearly sessile flowers are crowded in the axillæ of the leaves. The fruit is a drupe, about as large as an olive, with a red colour and an aromatic odour. It belongs to class *Octandria*, order *Monogynia*, in the Linnean arrangement.

When incisions are made into it, a juice flows out, which concretes on the bark, and forms what is called *Brasilian Elemi*. Very little of it, however, is met with. The substance given to me as *Brasilian Elemi* is imported in large, soft, unctuous masses, which, by drying, become hard and brittle. It is semi-transparent, has a greenish-yellow or bees'-wax colour, and is intermixed with small pieces of bark or wood. Its odour is terebinthinate, but aromatic.

Most of the *Elemi* met with in the druggists' shops is imported from Hamburg or Amsterdam, and is considered to be spurious. It is supposed to be principally made up of *Thus* or *Frankincense* (the resin of the spruce fir). I have two varieties which came from Hamburg: one is in masses, weighing one or two pounds each, and having a triangular shape; they are enveloped in a palm leaf. I presume this to be the

kind called by Guibourt *Résine élémi en pains*,—by Martius *Oriental Elemi*. The second kind is in large masses.

Elemi is composed, according to Bonastre, of—

Volatile oil	12·5
Resin (soluble in both hot and cold alcohol)	60·0
Resin or <i>Elemine</i> (soluble in hot but insoluble in cold alcohol)	24·0
Bitter extractive	2·0
Impurities	1·5
	<hr/> 100·0

The effects of *elemi* are precisely analogous to those of the turpentine.

It is, I believe, never used internally. As a constituent of ointments, it was recommended by Francisc. Arcæus in 1574. The ointment of *Elemi* of the Pharmacopœia is an imitation of Arcæus's liniment. It is used as a stimulant application to ulcers, and to promote the discharge from issues and setons.

ANACARDIACEÆ.

Anacardium occidentale.

This tree is a native both of the East and West Indies. It belongs to class *Enneandria*, order *Monogynia*, of the Linnean arrangement.

The fruit is the *Cashew nut* of the shops, the *semen Anacardii occidentalis* of some pharmacological works. In size and shape it has been appropriately compared to a hare's kidney. Its outer coat is of an ash-grey colour. Between this and the inner coat is a very acrid thick oil, which readily produces vesication when applied to the skin, and which has been used as a caustic for warts, corns, obstinate ulcers, ringworms, &c. Hence it is dangerous to crack the nuts in the mouth. If the face or hands be exposed to the vapour of this oil, as in roasting the nuts, violent swelling and inflammation are produced.

The fleshy pyriform peduncle, which supports the nut, is called the *Cashew apple*. It has an agreeable, acid, and astringent taste. They are eaten either in the raw or cooked state; and the juice, when fermented, forms an agreeable wine.

This tree yields annually from five to ten or twelve pounds of gum, called *Cashew gum*, or *Gummi Acaju*. It has some resemblance to gum Arabic, and consists of *Bassorine* and *Arabine*.

Semecarpus Anacardium.

This tree is a native of the mountainous parts of India. Its fruit (called in some works the *semen Anacardii officinalis*) is known in this country under the name of *marking nuts*, or *Malucca beans*.

They are heart-shaped, black, and about the size of the seed of the common kidney bean. Between their external and internal coats is a black, acrid, thick, oily juice, which is employed by the natives of India as a rubefacient in rheumatism, sprains, &c. It is a very acrid substance, producing in some considerable inflammation and swelling. It is commonly employed in India for marking all sorts of cotton cloth. The colour is improved, prevented from running, and fixed, by a mixture of quicklime and water.

Mangifera indica.

The Mango tree belongs to this order. It is a fine Indian tree, belonging to class *Pentandria*, order *Monogynia*, in the Linnean arrangement.



FIG. 193.—*Mangifera indica*.

The fruit "is universally eaten, and esteemed the best fruit in India."

Pistacia vera.

The fruit of this species of *Pistacia* is a drupe, known in the shops as the *pistacia nut*. It is eaten as a dessert, but in some countries is pressed for the fixed oil it contains.

The genus *Pistacia* belongs to class *Diœcia*, order *Pentandria*. The following fact, mentioned by Richard, is interesting as connected with the diœcious character of the plant. Two female *Pistacia* trees had been long cultivated at the *Garden of Plants* at Paris. Every year they bore flowers, but never produced fruit. One year the celebrated Bernard de Jussieu was astonished to find both of them fecundated, and ripening their fruit! He naturally conjectured that there must be a male flowering plant in Paris or its environs. He inquired, and found one at the nursery *des Chartreux*, near the Luxembourg.

The pollen of the male plant, therefore, must have been carried by the wind, or by insects, to the female plants.

Pistacia Terebinthus.

History.—This tree is the *Τέρμινθος*, or *Τερέβινθος*, of the Greeks. Hippocrates employed the fruit, buds, and resin of it, in medicine. It is supposed to be alluded to in Scripture on several occasions.

Botany.—It is a middling-sized tree, a native of the southern parts of Europe, of Northern Africa, and of Asia Minor.

Its leaves are oddly-pinnate; the leaflets being ovato-lanceolate, acute, mucronate. The flowers are arranged in compound racemes.



FIG. 194.—*Pistacia Terebinthus* (the female plant.)

By making incisions into the stem we obtain a liquid resin, known in the shops by the name of *Chio* or *Cyprus turpentine*, (*Terebinthina Cypria seu de Chio*.) As each tree never yields more than eight or ten ounces, this substance is somewhat scarce. It has the consistency of honey, but is more glutinous, a greenish yellow colour, an agreeable turpentine-like odour, and a bitter acid taste.

It is composed of *volatile oil* and *resin*.

In its *effects* and *uses* it agrees precisely with the turpentine obtained from the family *Coniferæ*, and which will be hereafter noticed.

Pistacia Lentiscus.

This tree is the *Σχίνος* of the Greeks. Hippocrates employed the leaves, the resin (*Mastic*), and the oil prepared from the fruit, in medicine.

It is a native of the Greek islands, of the north of Africa, and the southern parts of Europe.

Its leaves are abruptly pinnate, the leaflets are lanceolate, the petioles winged. The flowers are arranged in spikes.

Decandolle mentions two varieties, viz. β *angustifolia*, with somewhat linear leaflets. γ ? *Chia*, with ovate leaflets.



FIG. 195.—*Pistacia Lentiscus*.

a, The male. b, The female plant.

From this tree, (especially from the variety *Chia*) is procured, by incisions into the bark, a liquid exudation, which in part concretes on the stem, forming *mastic in the tear*, while part falls to the earth and constitutes *common mastic*.

Mastic consists of

Volatile oil, a very small quantity.	
Resin soluble in alcohol	90
Resin not soluble in alcohol (<i>Masticine</i>)	10
	<hr/>
	100

The *effects* of mastic are analogous to, but much milder than, the turpentine.

It is very rarely employed in medicine. It has, however, been used to check excessive discharges from the mucous membranes, as in leucorrhœa and gleet, in chronic pulmonary catarrh, old diarrhœas, &c.

Dentists sometimes use it for filling up the cavities of carious teeth. It is used by the Turkish ladies as a masticatory to sweeten the breath, and preserve the teeth and gums.

Dissolved in alcohol it forms a very useful cement and varnish.

Rhus Toxicodendron.

History.—Dr. Alderson, of Hull, was the first to draw the attention of medical practitioners of this country to the medical properties of this plant, by an essay which he published on the subject in 1793.

Botany.—*Rhus Toxicodendron*, or Poison Oak, is by some botanists considered a distinct species, by others only a variety of *Rhus radicans*. I have thought it best to follow Decandolle, who regards it, with Nuttall and others, as a distinct species.

It is a shrub of North America, growing to the height of from one to three feet. From the root many branching stems arise, which are covered with a brown bark. The leaves are oddly-pinnate, trifoliate; the leaflets angularly indented, and pubescent beneath. The flowers form axillary compound racemes; they are diœcious, polypetalous, and greenish white. The fruit is a round drupe, about the size of a pea.

It contains a very acrid milky juice, which by exposure to the air becomes black; and when applied to cotton or linen, forms a most indelible ink.

Poisonous emanations.—When this plant is not exposed to the sun's rays, as when it grows in shady places, and during the night, it evolves a hydro-carburetted gas, mixed with an acrid vapour, which acts most powerfully on certain individuals exposed to its influence, and produces violent itching, redness, and erysipelatous swelling of the face, hands, or other parts which have been subjected to its operation; these effects are followed by vesications, and desquamation of the cuticle. In some cases the swelling of the face has been so great, as to have almost obliterated the features; but all persons are not equally susceptible of its poisonous operation; so that some peculiar condition of the cutaneous organ seems necessary for the effect to be produced.

Chemistry.—No accurate chemical examination of the plant has yet been made; but there are at least three substances in it deserving of notice, namely—

1. A volatile acid, or probably narcotico-acid, principle.
2. A substance which becomes black by exposure to the air.
3. Tannic and acids.

The officinal part of the plant is the leaves (*Folia Toxicodendri seu Rhois Toxicodendri*).

Effects: (a.) *On animals*.—Orfila made several experiments with the watery extract of the *Rhus radicans* (whose operation is probably quite similar to that of *R. Toxicodendron*), and concludes that, "internally administered, or applied to the cellular texture, it produces a local irritation, followed by an inflammation more or less intense, and that it exerts a stupefying action on the nervous system after being absorbed." Lavini gave a few drops of the milky juice of *Rhus Toxicodendron* to guinea-pigs and birds, who were at first stupefied by it, but gradually recovered, without any other deleterious effect.

(b.) *On man*.—In the human subject *small doses* of the leaves increase the secretions of

the skin and kidneys, act slightly on the bowels, and, in paralysed persons, are said to have produced a return of sensibility and of mobility, with a feeling of burning and prickling, with twitchings, in the paralysed parts. *Large doses* occasion pain in the stomach, nausea, vomiting, giddiness, stupefaction, and an inflammatory swelling of the paralysed parts.

These effects shew that the poison oak possesses a twofold operation, that of acrid and narcotic. It seems to be allied in its action to some of the Ranunculaceæ, such as *Aconitum* and *Helleborus*.

Uses.—It has been employed as a remedy for old paralytic cases, depending on a torpid condition of the nerves. It has also been given in chronic rheumatism, obstinate eruptive disorders, in some cases of amaurosis, and other nervous affections of the eyes.

The powder of the leaves may be given in doses of from half a grain or a grain, gradually increased until some obvious effect is produced.

Rhus Coriaria.

This is the *sumach* tree, the different parts of which are so extensively used in dyeing and tanning.

Rhus Cotinus.

The wood of this species is used for dyeing, and is sold under the name of *young fustick*. The fruit is the *sumach berries* of the shops.

Heudelotia africana.

Adanson tells us, that a substance called *Bdellium* is procured in Senegal, from a tree, which the natives call *Niouttoutt*, of whose spines are made tooth-picks. This tree, which was considered to be a species of *Amyris*, has been described by MM. Richard and Guillemin, under the name of *Heudelotia africana*.

Now there is met with in commerce a substance called *Bdellium* (very different to the gum resin of that name brought from India) which is supposed to be the produce of Senegal, since it is not unfrequently mixed with Senegal gum,—and hence Guibourt has termed it *African Bdellium*. It consists of rounded or oval tears, from one to two inches in diameter, covered externally by a white or yellowish dust.

AMYRIDACEÆ.

Amyris (*Balsamodendron*?) *Commiphora*.

Dr. Roxburgh says, that the trunk of this tree is covered with a light-coloured pellicle, as in the common birch, which peels off from time to time, exposing to view a smooth green coat, which in succession supplies other similar exfoliations.

This tree, we are told, diffuses a grateful fragrance, like that of the finest myrrh, to a considerable distance round. Dr. Royle states, that he was informed that this species yields *Bdellium*; and in confirmation of his statement, I may add that many of the pieces of *Indian Bdellium*, and which I have met with in the shops of London, have adhering to them a yellow pellicle, precisely like that obtained from the common birch, and some of the pieces are perforated by spiny branches—another character serving to recognise the tree. This kind of *Bdellium* has a very close resemblance to myrrh, and, we are told, is sometimes sold under the name of *Indian Myrrh*. Bonastre has described it as *Myrrhe nouvelle, première espèce*. Is this the coarse kind of *Bdellium* which Dioscorides says is brought from India?

Myrospermum peruiferum.

History.—Balsam of Peru was first mentioned in 1580; but no accurate notions of the tree yielding it were entertained until 1781, when Mutis sent some branches of it to the younger Linneus.

Botany.—*Myrospermum peruiferum* is a native of Peru, New Granada, Columbia, and Mexico. It is a branching and elegant tree, whose stem and branches are covered with a thick, smooth, resinous bark. The leaves are alternate and oddly-pinnate; the leaflets are thick, coriaceous, smooth, ovate or ovato-oblong, acute, retuse, all equal in size, and marked with transparent glands. The flowers are white, and form simple racemes. The fruit is a coriaceous legume, about four inches long.

By Decandolle the genus *Myrospermum* is placed in the natural order *Leguminosæ*; I have, however, followed Dr. Lindley, who has transferred it to *Amyrideæ*.

In the Linnean arrangement it belongs to class *Decandria*, order *Monogynia*.

Balsam of Peru.—The substance known in the shops as balsam of Peru, is termed by some pharmacologists the *black* or *liquid balsam of Peru*, in order to distinguish it from another balsam also from Peru. It is imported in earthen pots and tin canisters. It is transparent, and has the consistence of a thick syrup, a deep reddish brown colour, a powerful but agreeable odour, and a warm, acrid, bitter taste. It is inflammable, and burns with a white smoke and a fragrant odour. Alcohol entirely dissolves it. Boiling water extracts its benzoic acid. It is generally stated to be obtained by boiling the bark and branches of the *Myrospermum peruiferum* in water; but this can hardly be the case, since this process would remove the benzoic acid, and, moreover, would give more consistency to the balsam by volatilizing the ætherial oil which it contains.

Professor Guibourt has received from M. Bazire this balsam, which he obtained in great abundance on the coast of Son Sonate, in the state of San-Salvador (the republic of Guatemala) by incisions into the stem of a *Myrospermum*, whose fruit is very different to that of *M. peruiferum*.

I have received another balsamic substance, under the name of *Balsam of Peru in gourds*, but it is more analogous to the Balsam of Tolu. The gourds are about the size of poppy-heads. The balsam contained within them varies in its consistence and degree of transparency: it has a reddish-yellow or brown colour, an odour very analogous to that of balsam of tolu, and a sweetish taste. Is this the substance alluded to by Ruiz, when he says that "the balsam of Quinquino is procured by incision at the beginning of spring, when the showers are gentle, frequent, and short; it is collected in bottles, when it keeps liquid for some years, in which state it condenses and hardens into resin, and is then denominated *dry white balsam*, or *balsam of Tolu*?"

The *white balsam of Peru* of some pharmacologists is stated by Professor Guibourt to be the *soft Liquidambar* before described.

Chemistry.—The composition of the black or liquid balsam of Peru is, according to Stoltze, as follows:—

Brown slightly soluble resin ..	2·4
Brown soluble resin	20·7
Oil of balsam of Peru	69 0
Benzoic acid	6·4
Extractive	0·6
Loss and moisture	0·9

100·0

The oil of the *Balsam of Peru* differs, according to Stoltze, from volatile, fixed, and empyreumatic oils; and should it be met with in other balsams, a particular name, he thinks, ought to be given to it. But Leopold Gmelin suggests that the oil obtained by Stoltze was in fact a mixture of volatile and fixed oil with some resin and benzoic acid. Lichtenberg, by distilling the balsam by itself, obtained a yellowish volatile oil, which, when rectified, was colourless, thin, and of a balsamic odour.

Trommsdorf analysed the *balsam of Peru in gourds*, and obtained the following results:—

Volatile oil	0 2
Resin	88·0
Benzoic acid	12·0

100·2

Physiological effects.—Black Peruvian balsam possesses the stimulant properties

of the balsams in the highest degree, in consequence of the large quantity of oil which it contains. It increases the frequency and fulness of the pulse, promotes cutaneous exhalation, and increases the mucous secretions, especially from the bronchial mucous membrane. It approaches copaiva and the turpentine in its stimulant operation, but acts less powerfully on the urinary organs. It is less tonic than myrrh. In its local operation it is stimulant and slightly acrid, and when applied to foul and indolent ulcers, frequently improves the quality of the secreted matters.

Uses.—It is employed internally in *catarrhal affections of the mucous membranes generally*, but more especially of the bronchial membrane. I need hardly caution you against its exhibition in inflammatory cases; for in such its stimulant operation can only increase the patient's sufferings. But in old-standing coughs and chronic catarrhs, it will at times be found beneficial. It has been used also in leucorrhœa, gleet, &c.

In some convulsive diseases, as traumatic tetanus and trismus; in *palsy*, especially when connected with rheumatism; in *lead colic*, and in several other diseases, it was formerly used, and spoken favourably of.

As an external agent it is sometimes applied to obstinate and indolent ulcers, as a stimulant, and to induce more healthy action.

Dose.—When exhibited internally the dose is half a drachm. It may be made into pills with some absorbent powder, or diffused in water by means of sugar and the yolk of eggs, or gum Arabic.

Myrospermum toluiferum.

History.—Balsam of Tolu became known to us about the same time that Peruvian Balsam did—namely, in 1580.

Botany.—The tree which yields the balsam of Tolu was formerly called *Toluifera Balsamum*. But Richard having carefully investigated the characters of the genus *Toluifera*, found that, with the exception of those of the fruit, which Miller had imperfectly described, they were identical with those of the genus now called *Myrospermum*; and as Ruiz states that the balsams of Peru and Tolu are both obtained from one tree, the *Myrospermum peruiferum* has been adopted by several writers as the source of both balsams.

Richard, however, tells us that he found specimens of the trees yielding these balsams in Humboldt's herbarium; and though he at first mistook them for the same species, he has subsequently recognized them to be different. He has, therefore, termed the tree yielding the balsam of Tolu *Myrospermum toluiferum*; it differs from *M. peruiferum*, in its having

thin, membranous, obovate leaflets, which are lengthened and acuminate at their summits. Moreover, the terminal leaflet is larger than the lateral ones.

I may add that Humboldt, Sprengel, Decandolle, and Nees von Esenbeck, admit Richard's view of the distinction of the species.

Production.—Balsam of Tolu is procured by making incisions into the stem, and collecting the juice which flows out in some kind of vessel. It is imported usually in tin canisters, sometimes in earthen jars, and occasionally in gourds.

When first brought over it is generally soft and tenacious, but by age becomes hard and brittle. Formerly it was imported in this hardened state. It is transparent, of a reddish brown colour, a most fragrant odour, though less powerful than that of storax or Peruvian balsam, and of a pleasant sweetish taste. It softens under the teeth, when heated readily melts, takes fire, and burns with an agreeable odour. It is very soluble in alcohol and æther, and gives out its benzoic acid to water.

Composition.—It is composed of—

Volatile oil.
Benzoic acid.
Resin.

The proportions have not been accurately ascertained, unless, indeed, it should turn out that the Peruvian balsam in gourds analysed by Trommsdorf should be our balsam of Tolu, but which none of the German pharmacologists admit. Guibourt thinks that by keeping, the quantity of benzoic acid in the balsam increases at the expense of the volatile oil.

Effects and uses.—Its effects are quite analogous to, though milder than, those of the other balsamic substances; and it may be administered in the same cases, though it is principally given in chronic pulmonary complaints. Moreover, it is frequently used as a flavouring ingredient, and perfumers employ it on account of its odoriferous properties.

It may be given in *substance* in doses of from ten to thirty grains; or it may be made into an *emulsion* with sugar and gum Arabic. The *tincture* is a very convenient preparation; it is principally used as an adjunct to cough mixtures, but is of course objectionable in all inflammatory cases. The *syrup* is also used as a flavouring ingredient. Balsam of Tolu is a constituent of the *compound tincture of benzoin*. In the shops are kept *lozenges* made of balsam of Tolu.

Copaifera (various species of.)

History.—The first notice of Copaiva balsam, and of the tree yielding it, was given by Marcgrav and Pison, in 1648.

Botany.—The different species of the genus *Copaifera* are natives of South America, and grow within the tropics. They are resinous trees, with pinnate leaves. The flowers are hermaphrodite and paniculate, with caducous bracteolæ. The calyx is four-parted: there is no corolla. The stamina are hypogynous, free, ten in number. The style is filiform. The fruit is a stipitate, coriaceous, one-seeded legume. The seed is involved in a berried arillus.

Decandolle places this genus in *Leguminosæ*, but it has been placed in *Amyridaceæ* by Dr. Lindley, principally, I presume, on account of its resinous juice.

In the Linnean arrangement it belongs to class *Decandria*, order *Monogynia*.

From all the known species of *Copaifera* (and Dr. Lindley says they are sixteen in number) is obtained the well-known balsam of Copaiva,—not from all in equal quantity. Hayne says, that the greatest quantity is furnished by *C. multijuga*, in the province of Para. In the London Pharmacopœia, *C. Langsdorfii* is mentioned as the officinal species,—why, I confess I know not.

Production of balsam of Copaiva.—Balsam of Copaiva is obtained by making incisions into the stems of the *Copaifera* trees. It flows out, we are told, in great abundance, and at the proper season twelve pounds have been obtained in three hours. The cuts are afterwards closed with wax or clay. Old trees sometimes furnish the balsam two or three times a year.

Properties.—Balsam of Copaiva may vary somewhat in its quality, according to the species from which it is obtained, the age of the tree, the season of the year, &c. The smaller species, which grow in the interior of the Brazils, as in Bahia and Minas, yield, we are told, less balsam, but it is more resinous and sharper. Old trees furnish the best balsam.

The balsam may, therefore, vary in its colour, consistence, odour, taste, and in the relative quantities of oil and resin which it contains.

“In commerce,” says Dr. Duncan, “two kinds are usually distinguished, and named from the country in which they are produced, the Brazilian and West Indian. The Brazilian was formerly thought to be obtained only from Guaiana and the Island Maranhon. It is thin, clear, of a pale colour, pleasant aromatic smell, and of an acrid bitter taste; while that procured from the Antilles is thick, golden yellow, not transparent, and a less agreeable smell, even like turpentine. It is probably the product of the *C. Jacquinii* [formerly called *C. officinalis*], the only species which grows in Martinique and Trinidad.”

Adulteration.—Balsam of Copaiva is said to be sometimes adulterated with a common dark kind of castor oil. Several methods of detecting this have been proposed:—

1. *By ebullition* with water we obtain a dry brittle resin if the balsam be pure; but a soft or liquid residue if adulterated.

2. *By caustic potash.*—If the balsam be mixed with a solution of caustic potash, the two liquids separate after some time, unless castor oil be present, in which case a transparent gelatinous mass is formed.

3. *By subcarbonate of magnesia.*—Pure balsam of Copaiva dissolves magnesia, and becomes transparent; not so the adulterated kind.

4. *By ammonia.*—If pure balsam be shaken with ammonia, it becomes clear and transparent in a few instants; not so when any castor oil is present.

Composition.—Balsam of Copaiva consists of volatile oil and resin, in somewhat varying proportions. From 100 parts Stoltze obtained—

Volatile oil	38.00
Yellow brittle resin	52.00
Brown viscid resin	1.66
Resin with traces of extractive	0.75
Loss (principally volatile oil) ..	7.59
	<hr/>
	100.00

1. *Essential or volatile oil of Copaiva.*—This oil is usually procured by distilling the balsam with water. Attempts have been made to obtain it without distillation; and a process has been published by Ader; but it is more expensive, while the oil procured by it is impure, from the presence of a little resinous soap.

One hundred parts of balsam contain, on an average, about forty or forty-five parts of oil.

When the oil of copaiva has been rectified, and afterwards freed from water by digesting it on chloride of calcium, it has a specific gravity of 0.878. It is colourless, and has an acrid taste, and an aromatic peculiar odour. Sulphuret of carbon and sulphuric æther dissolve it in all proportions; absolute alcohol dissolves two-fifths its weight of it; ordinary rectified spirit takes up less than this. Potassium may be preserved in it unchanged, shewing the absence of oxygen. It dissolves sulphur, phosphorus, and iodine (by the latter it is coloured), and absorbs chlorine, with which it becomes turbid and viscid. When dropped on iodine, heat and hydriodic acid are suddenly produced.

Sulphuric and nitric acid convert it into a resinous substance. When hydrochloric acid gas is passed into this oil, crystals of the *hydrochlorate of the oil of Co-*

paiva (or artificial camphor of the oil of *Copaiva*) are deposited, while a fuming oily product, saturated with acid, remains. Hence, therefore, it is probable that oil of Copaiva, like the oil of lemons, consists of at least two isomeric oils: one which forms the crystallizable compound with hydrochloric acid; the other, which does not form this crystalline matter.

Oil of Copaiva is isomeric with oil of lemons, and therefore consists of—

10 atoms carbon	$10 \times 6 = 60$
8 atoms hydrogen	8
	<hr/>
	68

2. *Crystallizable or acid resin of Copaiva: Copaivic acid: Acide copahuvique* (Dumas).—When balsam of Copaiva is deprived of its volatile oil by distillation or evaporation, the residue is a brownish resin, sold in the shops, and used in medicine, as the *resin of Copaiva*.

It is composed of two resins: one crystallizable and acid; the other viscid. These are separated the one from the other by rectified spirit, or naphtha, which dissolves the acid resin, but leaves the viscid one.

One hundred parts of balsam contain, on an average, about fifty parts of acid resin.

The crystallizable or acid resin is brittle, of an amber or yellow colour, soluble in alcohol, rectified spirit, æther, and the volatile and fixed oils. It is decomposed by sulphuric and nitric acid. Its acid properties are proved by the alcoholic solution reddening litmus, and by the definite compounds (*copaivates*) which this resin forms with certain bases. Thus, if we drop an alcoholic solution of nitrate of silver into the alcoholic solution of this resin, we obtain, on the addition of a little ammonia, a white crystalline precipitate (*copaivate of silver*), slightly soluble in alcohol, and composed of one atom copaivic acid to one atom oxide of silver. In the same way we may form the analogous *copaivates of lead and lime*. The *copaivates of potash and soda* are soluble, and have a bitter taste and a disagreeable odour: they are easily decomposed by acids. The *copaivate of ammonia* is soluble in æther and alcohol, but not in water. The *copaivate of magnesia* is prepared by adding copaivate of potash to sulphate of magnesia.

The acid resin of copaiva or copaivic acid is isomeric with colophony, and consequently consists of—

40 atoms carbon	$40 \times 6 = 240$
32 atoms hydrogen	32
4 atoms oxygen	$4 \times 8 = 32$
	<hr/>
1 atom copaivic acid	304

Or we may regard it as an oxide of the volatile oil of copaiva—

4 atoms oil of copaiva ..4×68..	272
4 atoms oxygen	32
<hr/>	
1 atom copaivic acid	304

3. *Viscid resin of copaiva*.—When a hot alcoholic solution of the commercial resin of copaiva cools, it retains in solution the acid resin already described, but deposits a brown viscid substance, which is termed the *viscid resin of copaiva*. As it is more abundant in old than in recent balsam, Gerber regards it as produced by some alteration of the acid resin. It is soluble in anhydrous alcohol and æther, and in the volatile and fixed oils. It has very little affinity for basic substances. One hundred parts of balsam contain from 1·65 to 2·13 per cent. of this resin.

THE MUSCLES OF THE EYE-BALL AND THEIR NERVES.

To the Editor of the Medical Gazette.

SIR,

THAT man must be a very unworthy member of our profession who does not feel some hesitation in publishing statements which are calculated to lower the character of any of his professional brethren; but, if in any circumstances such a proceeding becomes necessary in self-defence, a clear substantiation of the facts alleged is imperatively demanded

In the 19th vol. of the *MEDICAL GAZETTE*, page 86, my colleague, Mr. Walker, of Manchester, states; that I have accused him of literary dishonesty and want of courtesy. If I am unable to confirm the grave charge to which Mr. Walker has thus alluded, I am willing humbly, and even cheerfully, to submit to the whole odium that would then be my due; but if on the contrary, Mr. Walker's statement should prove erroneous, it remains for him to make that reparation which can be afforded only by a public acknowledgment in the pages of the *MEDICAL GAZETTE*, in which were published his pirated views of the muscular nerves of the orbit. In my last letter* I stated, that I trusted the perusal of my paper in the *Transactions of the Provincial Medical and*

*Surgical Association**, would render any such further discussion as could be founded on the views given in Mr. Walker's letter of Sept. 20th†, totally unnecessary. Mr. Walker, however, lately published "*The Philosophy of the Eye*," which, although intended as a popular work, contains such allusions to the subject under discussion, as I should not consider myself justified in allowing to pass without a few remarks.

In reference to his account of the motion of the eye, which resembles that formerly given‡, Mr. Walker observes§: "This view seems to offer a key to the actions of the muscles of the eye-ball; it elucidates the functions of those muscles and their nerves, in a manner which appears more satisfactory and complete than any other with which I am acquainted. The ingenious observations of my colleague, Mr. Hunt, opened the way to it; they furnished the first link of the chain of reasoning. I have pursued the subject, and I do not perceive that any one who regards the action of the trochlearis as being that which I have described it, as turning the eye inwards, can dissent from the explanation above given of the functions of the motor nerves and muscles of the eye-ball. It is one of those points, however, that have puzzled physiologists from the very earliest times, and therefore, before this is admitted to be the true explanation of the matter, it must be further sifted and examined in all its bearings. In the meantime it is offered as a suggestion worthy of the attention of physiologists, and one which I conceive will bear investigation."

I am perfectly at a loss to conceive what "ingenious observations" of mine, contained, according to Mr. Walker's reference, in the *MEDICAL GAZETTE*, vol. xix, page 20, published Oct. 1st, 1836, could have any influence upon, or "open any way," to Mr. Walker's conclusions, or how these could "furnish the first link of the chain of reasoning," which reasoning and conclusions were contained in the *MEDICAL GAZETTE*, vol. xviii. page 978, published Sept. 24th, 1836, and read several weeks previously at the Bristol Meeting of the

* The 5th Vol. of these Transactions, containing this paper, has been recently published.

† *MEDICAL GAZETTE*, vol. xviii. page 978.

‡ *Ibid.*

§ *Philosophy of the Eye*, page 227.

* *MEDICAL GAZETTE*, vol. xix, page 191.

British Association. How can we reconcile the above remarks in Mr. Walker's "Philosophy of the Eye," with his former observations*, viz. "Mr. Hunt first suggested the probability that the complexity of the nerves of the orbit was connected with the varied motions of the two eyes, which I (Mr. Walker) have pointed out." The following of Mr. Walker's statements are equally difficult to reconcile:—"I have pursued the subject, and I do not perceive that any one who regards the action of the trochlearis as being that which I have described it, as turning the eye inwards, can dissent from the explanation above given of the functions of the motor nerves and muscles of the eye-ball†."

"It may suit Mr. Hunt's purpose to say that my views are similar to his with one exception, viz. the action of the superior oblique muscle. Mr. Hunt very well knows, however, that there is something more than this; he knows that some important conclusions were drawn relative to the fourth nerve; that the superior oblique was considered as the antagonist of the external rectus in one eye; and that these muscles were associated in the action of the two eyes when directed laterally. In short, if Mr. Hunt had said that my views were dissimilar to his with one exception," &c. "he would then have stated exactly what is the case‡." Can these remarks be written by the same individual?

Mr. Walker has obligingly enabled me to answer, at least partially, by reference to his new work, the following questions contained in his letter§:—"Discoveries! what has Mr. H. discovered? Did he discover the oblique muscles, or the fourth and sixth nerves? Or does he pretend to have discovered, that when we look at an object laterally one eye is turned inwards and the other outwards?" In the *Philosophy of the Eye*, page 227, he observes, "The ingenious observations of my colleague, Mr. Hunt, opened the way," &c. These "ingenious observations," then, according to Mr. Walker's own admission, are the discoveries to which Mr. Hunt has so presumptuously laid claim. Mr. Walker has pursued the subject, and he does not perceive that any one can dissent, now he has added his version of the action

of the superior oblique muscle; the different action of this muscle, and the description of the associated motions of the two eyes, founded upon it, being the only additions made by Mr. Walker to my physiology of the recti and oblique muscles.

I shall now carefully examine the alteration which Mr. Walker has made in my views, by attributing a different action to the oblique muscles from that which I have described.

Although the account this gentleman gives of the insertion of the superior oblique muscle, both in his original communication to the *GAZETTE*, and in his *Philosophy of the Eye*, is rather confused; yet I believe his observations on this part of the subject are intended to show, that the tendon of the superior oblique muscle is inserted into that part of the sclerotic coat which is exactly above the centre of the eye-ball, although he allows that the insertion extends a little downwards and outwards, towards the insertion of the abductor muscle or external rectus. The fact for which he particularly contends is, that this tendon is not inserted behind an imaginary line marking the vertical axis of the eye: at the same time he allows that the insertion is continued rather farther outwards than this axis, and in the two cuts* this insertion is represented as passing some distance under the tendinous insertion of the abductor or external rectus. Even if this description of the insertion of the superior oblique muscle were correct, it would not justify Mr. Walker's account of the action of this muscle; as its action in that case must be not merely to draw, but to rotate the external part of the eye nearer to the pulley or trochlea. Now as this pulley is fixed at the upper and inner part of the orbit, the external part of the eye-ball must consequently by this action be rotated towards the pulley, upwards and inwards, and the opposite or internal part of the globe must of course at the same time be rotated downwards and outwards, to the same extent, in accordance with the well-known law in physics, that opposite points of the same sphere always rotate in opposite directions. Therefore, according to Mr. Walker's own description of the insertion of this muscle, its action must produce such a rotation of the eye-ball as will turn the cornea

* *MEDICAL GAZETTE*, vol. xviii, page 978.

† *Philosophy of the Eye*, page 228.

‡ *MEDICAL GAZETTE*, vol. xix. page 86.

§ *Ut supra*.

* *Philosophy of the Eye*, pages 211 and 213.

downwards and outwards. After noticing this incontrovertible fact, I am apprehensive that although by my "ingenious observations," the way was opened for Mr. Walker, his footsteps have obliquely wandered from the path; and though "furnished with the first link of the chain of reasoning," those he has subsequently added, being of different materials, have not continued in a concatenation accordingly, not being of perdurable toughness. I have only to add that I should be wasting the time of your readers in endeavouring to convince Mr. Walker that this muscle is inserted into the posterior as well as external part of the sclerotic coat; or in more definite terms, at a point *very much nearer* the posterior than the anterior termination of the optic axis, or antero-posterior axis or diameter of the human eye*.—I am, sir,

Yours respectfully,
R. T. HUNT.

Manchester, July 24th, 1837.

VICARIOUS MENSTRUATION.

To the Editor of the Medical Gazette.

SIR,

THERE can be no doubt that the menstrual function has been occasionally replaced by periodical discharges from other organs or surfaces of the body. The skin, the eye, the nostrils, the lips, the ears, ulcers, and still more frequently, the mucous membrane of the stomach and intestines, have occasionally become the seat of the vicarious secretion, and perhaps the following case, which I have recently met with, may be deemed worthy to be ranked as an additional fact with the many now recorded upon this interesting subject. Mrs. B. aged 49, of industrious habits, and robust health, mother of five children, and never liable to uterine irregularity or leucorrhœa, about five years since, in consequence of fright during the menstrual period, experienced suddenly a suppression of the catamenia, which have never since returned. Her general health was not sensibly affected, but two months afterwards a sudden and copious discharge of blood, per anum, took place, from which she suffered no inconvenience. Two or three months

later she was sensible for the first time of a pricking sensation on the under surface of the left mamma, which was soon followed by increased heat and redness, and a discharge of a thin serous, colourless fluid, similar in no other respect than as regards the smell, to the natural menstrual secretion. This continued for about twenty-four hours, when the surface gradually dried up, desquamation followed, and the skin in a few days resumed its natural appearance. With the cessation of the discharge of the breast first affected, a precisely similar series of phenomena took place in the corresponding point of the opposite side, and has continued up to the present moment, an interval of more than four years, to be repeated at the regular monthly period. She only complains of the local smarting and the disagreeable smell, which at times she states to be almost insupportable.

The affected part occupies a space about the size of the palm of the hand, and is situated in the fold of the skin between the breast and the thorax, extending equally upon both surfaces. There is an exact correspondence on either side, and during the period of secretion the skin has all the appearance of a raw and blistered surface; the nipple is tender, but has never been subject to any discharge.

She says that the local changes have not sensibly varied in character or extent from the commencement.

If you consider these details sufficiently interesting for your valuable journal, by their insertion you will oblige,

Your obedient humble servant,

CHARLES COWAN,
Physician to the Reading
Dispensary.

Reading, 29th July, 1837.

COMPARATIVE MERITS OF THE FRENCH AND ENGLISH SCHOOLS OF MEDICINE.

To the Editor of the Medical Gazette.

SIR,

IN the leading article of your journal, dated 27th May, 1837, much useful and valuable information has been addressed to those students who are about visiting the Parisian schools for the fancied purpose of acquiring a more extended

* The concluding paragraph we omitted, as not essential to the elucidation of the subject.—ED. GAZ.

source of professional information than may be obtained by a regular attendance in our own metropolitan schools. Thinking after the perusal of the information in question that a few additional remarks, upon the study of anatomy in particular, may not prove altogether uninteresting, I have ventured to address you, Mr. Editor, upon the subject.

Gentlemen who visit Paris for the purpose of prosecuting their anatomical studies, are not aware of the immense difficulties they have to encounter in order to obtain subjects for dissection. It has been represented in the medical periodicals that subjects are to be obtained in profusion for sums varying from two shillings and sixpence to five shillings each subject; and that the best time for students to visit Paris is during the summer season. Why such misrepresentations and false statements are allowed to pass unnoticed, I cannot for a moment conceive, as they must most materially affect the interests of those gentlemen who cross the water under such apparently flattering expectations. The real state of the case is widely different; subjects for dissection cannot be obtained for any price during the summer season, unless the interested individual obtains an introduction to the "Prosecteur des Hôpitaux," who will procure him subjects for dissection in his own private room, upon payment of a fee of 4*l.* for the summer months.

It appears to me that few are acquainted with the internal arrangements of the medical department in Paris, or certainly they would not advise the junior members of the profession to resort for instruction to a place where it can be but ill obtained.

To state briefly the arrangements of the anatomical department, they are as follow:—Two places only are allotted to students for the purpose of dissection, the one at the "Ecole Pratique," the other is the magnificent suite of rooms called "L'Ecole d'Anatomie de Clamart." The latter institution was built expressly for meritorious students, called "Internes" and "Externes des Hôpitaux*." The average distribution at Clamart is from seven to ten subjects daily; there are, I believe, about 25 "Internes," and 180 "Externes." These

gentlemen have the privilege of taking a body between four, for which the "Externes" have to pay three francs and a half, but the "Internes" obtain their subjects free of any expense whatever; and I have to assure you that after these privileged individuals have made their choice, there very seldom indeed remains a single subject for disposal; and when a subject is not selected by them, it is generally because it has been mutilated by a post-mortem examination, and consequently is altogether unfit for anatomical purposes. It is quite a mistaken idea about purchasing anatomical subjects; it cannot be effected for any money in Paris. During the last year I was in Paris, 1837, I was constantly at Clamart, and from private interest I obtained a very good supply of subjects; and there I daily witnessed the extreme disappointment of medical students, for they could not obtain even an extremity for any price.

With reference to the study of surgery, the facilities that are offered in Paris for its thorough acquirement are certainly the most ample that can be afforded. And here again no one can go directly and purchase a subject for operations; he must previously attend a course of lectures upon surgery, given generally by the "Prosecteur des Hôpitaux," who at present is M. Maisonneuve, an old "interne" of Dupuytren, a gentleman of great talents and ability, and who is always exceedingly attentive to English students: during the delivery of the lectures in question, the operations upon the dead body are performed, twice at least, before the students present, and at the termination of the course the pupil then has a body given him on which to perform all the operations. Should he yet wish to extend his acquirements, he may now purchase subjects (if any be left after the "internes" have been served,) for which he will have to pay eight or ten francs. The fee to the course of surgical lectures is £1.

The greater number of individuals who visit Paris for the purpose of prosecuting their surgical studies, are members of the Royal College of Surgeons

* This class of pupils represent the "dressers" of our hospitals, with this exception—that the former obtain the honourable distinction in ques-

tion by a public display of their numerous acquirements; whereas the latter individuals, frequently of the smallest capacity, obtain the office of "dresser" for pounds, shillings, and pence.

of London; and not a little mortifying it is to our members to witness the degree of manual dexterity almost invariably displayed on the part of the French students. It is a well-known fact, that scarcely one member in ten has ever had a finger or toe to take off upon the dead body before he reaches Paris, owing to the scarcity of subjects under the present enactments of the Anatomy Bill; and in consequence of this we perceive a display of surgical skill such as invariably to call forth the derision of our fellow-students of the French metropolis. But with whom does this great evil originate? Certainly with those who have the charge of the surgical examinations. The Examiners of the Royal College of Surgeons ought to insist upon the candidates performing some of the many surgical operations in their presence: they ought to make this branch of education one of the greatest importance; yet theoretical knowledge only is required.

With reference to *French certificates*, is it not a most disreputable fact that the Worshipful Society of Apothecaries should recognize them as fit qualifications for an examination for their diploma, when it is well known that any person may obtain from all the professors a certificate for any period of time? I have witnessed individuals who tried for experiment what I have asserted, and who being only a few days in Paris have obtained certificates of a year's attendance,—from the pen of Andral, Louis, Velpeau, Lisfranc, Roux, &c. &c. This is a very unfair system, and ought not to be tolerated.

Should the above, Mr. Editor, be considered worthy a corner in your journal, they may prove of some service to those gentlemen who are about visiting Paris, and you will oblige

Your very obedient servant,

M. R. C. S. L.

July 28, 1837.

ON THE
NERVOUS SYSTEM.

(A Letter addressed to Dr. Graves.)

BY MARSHALL HALL, M.D. F.R.S. &c.

DEAR SIR,

I HAVE but this moment seen your note, inserted in the MEDICAL GAZETTE a

fortnight ago. I fear, from its tone, that mine of the previous week has given you offence, and I beg to assure you that nothing was so far from my mind.

You are not aware how much annoyance I have recently experienced on account of the topic of our correspondence. But a very short time ago I was called upon to reply to an unfounded claim in reference to it, on the part of Mr. Mayo. Since that event, my second Memoir has been refused publication by the Council of the Royal Society, influenced, *as I believe*, by Dr. Roget, whom I had offended by my straightforward testimony relative to the recent unfortunate award of the Royal Medal, and by Mr. Mayo, who was very unjustly instituted one of the *referees* of my paper! There are other circumstances connected with this affair, which I have no reason to conceal,—circumstances equally discreditable to the individuals who constitute the Council, and brutal—yes, brutal, towards me. Will you believe, that, impressed with the extent and importance of my investigation, I proposed to abandon the practice and advantages of my profession for four or five years, and to devote myself to this inquiry, and that, *under these circumstances*, the Council would not even depute one or two of its members to witness my experiments? I have not time to add more at present; but the feeling of a public duty imposed upon me, whilst I am perfectly independent and careless of consequences, will urge me to make a full disclosure of some recent transactions, at no distant period. If this be delayed, it is only because I have been engaged in correcting the press for my rejected Memoir; because I leave London for the continent in two days; and because, on my return, I shall be fully taken up with my lectures.

I beg your pardon for occupying *your* time with these matters. I thought it the only way of explaining to you the brevity of my note, and the real feeling of my mind, which was any thing but a feeling of disrespect towards you. I will now revert to the more immediate subject of our correspondence.

I have published *two* papers on the subject of our inquiries, in the "Proceedings" of the Zoological Society; the first in 1832, the second in 1834. I

have read *two* papers to the Royal Society; the first in 1833, the second in 1837. I have given lectures, of which one was published in the *MEDICAL GAZETTE*, in January 1835, and the whole in a separate volume in April of that year. It is acknowledged that my first publication has the *priority* of date over those of Professor Müller and yourself; and thus the scope and nature of my opinions are different from those of Professor Müller and from yours, and, in a word, *peculiarly my own*. I have traced the inquiry from its *origin* to its *present limits*; I have distinguished the *principle* of the reflex function from *sensation*, and identified it with the *vis nervosa* of Haller; I have ascertained that this principle resides in the *medulla spinalis*, and in certain incident and reflex nerves, *exclusively of the cerebrum*; I have traced the physiology, the pathology, the therapeutics of this principle. All, or even part, of this, no one else has done.

Now having done all this, not only unaided, but actually opposed in every way—first, for three or four years by neglect, then by unjust and injurious criticisms, and now by unfounded claims and influence abused, may I not be excused if I should feel that justice has not been done to me, and that I ought to be allowed to enjoy the tardy and meagre recompense of my labours in quiet?

One thing I may truly add, I have an unfeigned admiration of *your* talents, industry, and devotedness to our science. I do not think that you have *any* claim to share the fruits of my labours on the nervous system with me; but I do think that you have won laurels for yourself of which *any* man might be proud, and which I trust you will long live to enjoy.—I am, dear sir,

Yours very truly,
MARSHALL HALL.

14, Manchester Square,
July 28, 1837.

P.S.—It will be observed, that the observations made in this letter have a tacit reference to those contained in the leader of the *MEDICAL GAZETTE* for the last week.

[Why the established custom of addressing to the Editor any such explanatory letter as the preceding should have been departed from, and the sin-

gular specimen of egotism which it presents inscribed to Dr. Graves, especially after Dr. Hall's contemptuous note to that gentleman, and his no less contemptuous retort, we are at a loss to conceive; unless, indeed, Dr. Hall supposes that Dr. Graves wrote the leading article in this journal for July 22, to which he alludes, and in which we endeavoured to shew the exact position of the different claimants to the discovery of the "reflex function." If so, we beg to assure Dr. Hall that he is totally mistaken with regard to the authorship of the paper in question. Had we received the preceding letter before our article "On the History of some Discoveries in Medical Science" was written, we should certainly have taken leave to remark, that even amid the warmest controversies, it has never hitherto fallen to our lot to find the term "brutal" applied by any one, except Dr. Marshall Hall, to those who had not formed so high an estimate of his physiological pretensions as he seems to have done himself.—*ED. GAZ.*]

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on the Diagnosis and Treatment of Diseases of the Chest. Part I.: Diseases of the Lung and Windpipe. By WILLIAM STOKES, M.D., M.R.I.A., Physician to the Meath Hospital and County of Dublin Infirmary, &c. &c.

It is well known that many medical men of undoubted abilities, and great zeal for science, neglect, despise, or affect to despise, auscultation and percussion, but more especially the former. That they are decidedly wrong in this respect, we have no doubt. That interest, pride, or prejudice, have something to do in this matter, we firmly believe. That they are thus depriving themselves of means which, properly employed, and properly interpreted, would often assist in extricating them from their difficulties, we are also persuaded.

This opposition with regard to what have been more especially termed physical signs, and which, from their title, might be supposed to be the least disputable parts of medicine, is probably owing in part to the causes we have

already mentioned; in part also to the inherent difficulties of the subject; and though last, not least perhaps, to the bold, extravagant, and unfounded pretensions of the partizans of auscultation and percussion, to a degree of skill in the interpretation of diseases which the results too often falsify. We must say frankly, that this work is not, in our opinion, altogether calculated to do away with that portion of the opposition which arises from the idea that imagination may have somewhat magnified the brilliancy of the statements.

We would entreat the opponents of auscultation and percussion, however, to reconsider the matter, and they will find, in spite of appearances, that there is no necessary or inevitable connexion between them and that exalted state of the imagination which may have produced some feeling of disgust. On the other hand, we can fairly certify that the most violent opposition to auscultation is by no means inconsistent with that state of mind which we are blaming in others.

"As the principal object of this work is to elucidate the diagnosis of the diseases of the thoracic viscera*," and as among the means employed with this view the results furnished by auscultation and percussion deservedly hold a very high rank in the estimation of the author, it may be of use to commence with a general idea of his opinions on these subjects.

"A sufficient experience has convinced me, that any man of ordinary education may acquire the power of distinguishing thoracic diseases, in a degree sufficient for all practical purposes, without troubling himself with those excessive refinements in the diagnosis from acoustic signs, on which some have improperly prided themselves. I have endeavoured to adapt this work to the wants of the practical man, always assuming that he is familiar with the ground-works of the subject, with the characters and causes of physical signs, as originally taught by Laennec, and more recently investigated in the works of Forbes, Williams, and Clark†."

These quotations might furnish matter for much remark, but we shall endeavour to be brief. The author assumes that the practical man, to whose

wants this work is adapted, is *familiar with the groundworks of the subject, with the characters and causes of physical signs as originally taught by Laennec*, and more recently investigated in the works of the authors above mentioned.

Now this preliminary study, this becoming *familiar* (*practically*, we mean) with the groundworks, &c., will require, if we mistake not, much more time than men of ordinary education can afford during the course of such education,—much more time than Laennec himself ever gave to the subject, or much more skill in auscultation than Laennec ever possessed.

The author does not explain what he means by those *excessive refinements in the diagnosis from acoustic signs* on which some have improperly prided themselves. But if he has ever met with any man, whether of ordinary or extraordinary education, who has acquired the power of distinguishing thoracic diseases in a degree *sufficient for all practical purposes*, his experience is indeed very extraordinary.

We suspect that even the most skilful will sometimes wish that their practical knowledge had been greater in this respect.

It has been seen that our author repudiates those excessive refinements in the diagnosis from acoustic signs on which some have improperly prided themselves. Let us take an instance, then, of what the author of course does *not* consider an *excessive refinement*. "In the case of bronchitis, we have, in addition to the functional lesion, a group of signs resulting from the physical changes of the part, which *often* enable us to detect *the slightest shade of mucous irritation*, and to pronounce on the *exact locality, extent, and stage* of the disease*."

We should like to know how many practised auscultators there are who would consent to be put to this test. Yet the assertion is made with all due gravity.

But to take another instance, where the author is not, however, confining himself to the consideration of auscultation.

"*Nothing is so easy as to recognise the suppuration of pulmonary tubercles*†." This is said without restriction or qualification. We certainly had

thought that this was in many cases an exceedingly difficult task. Is it always easy to know, during the bronchitis and pneumonia of measles, whether this suppuration is taking place?—or even in ordinary cases of pneumonia and bronchitis, especially where dilated bronchi exist in the upper parts of the lungs? In the late influenza, cases were met with, if we mistake not, in which this vaunted knowledge would have been somewhat at a loss.

Such assertions as the preceding are not calculated to inspire unlimited confidence in the opinions of writers on diseases of the chest. They may, however, furnish a salutary caution to the readers of those works in which they occur, as to the enthusiasm which may possibly have inspired other passages.

“On the subject of mediate percussion, I can only say that the finger, with its back turned to the chest, seems the best pleximeter; and that I have not found the instrument of M. Piorry, or his mode of investigation, to possess the advantage which he has described. I am far, however, from undervaluing M. Piorry’s labours in the field of diagnosis*.” From the above passage, and from his not having more than once, we think, in the course of this work, spoken of any other mode of employing percussion, we may presume that the former is the one which he habitually prefers. It appears to us that those persons who confine themselves to percussing on one finger, are not in general sufficiently aware of one source of fallacy in that method, which is, that a thin portion of lung will often give a sound sufficiently clear to lead to the idea of there being much depth of lung behind it. On the other hand, percussion on M. Piorry’s pleximeter, or some other broad intermediate substance, may sometimes, unless considerable caution be used, give an idea of dulness of sound, where there is really no corresponding disease. We cannot but think that if our author had been well aware of the difficulties and sources of fallacy frequently attending percussion, especially when it is confined to one mode, he would have expressed himself with more caution.

Before terminating these preliminary remarks, we shall call attention to one point, which is, that for those who have by long and diligent study become

“familiar with the ground-works, &c.,” a great part of this work might well have been spared. It is scarcely to be supposed that they will have read the works of Laennec and others merely for the sake of the physical signs, but that they will also have made themselves acquainted with other portions of those works. Nor can it be supposed that they will, during this long course of study, have confined themselves to writers on diseases of the chest, but that they will also have become familiar with writers on other branches of medicine.

Dr. Stokes thus requires from his readers a degree of previous knowledge, the possession of which would render unnecessary a considerable portion of his work.

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On a New Mode of Treatment employed in the Cure of various forms of Ulcer and Granulating Wounds.
By FREDERIC C. SKEY, F.R.S., Assistant-Surgeon to St. Bartholomew’s Hospital, &c. &c.

THIS is an interesting pamphlet, written in the strong conviction of having an important communication to make, and with a jealous fear lest the author should be suspected of riding a hobby. Thus, says Mr. Skey—

“It is more that I fear the views I advocate may be prejudiced by an apparently overweening confidence on my part, than from any distrust of the future, confirming the confidence I entertain in the proposed remedy, that I hesitate to avow my unqualified belief in its competence to invariably supersede *all* operations, in the treatment and removal of non-specific ulcers.”

For the remedy thus energetically recommended the author claims—a trial; and we think those who peruse his observations will not be inclined to yield him less. Mr. Skey, in the first place, reviews the opinions of some of the most established writers on the subject of ulcer, dwelling especially on those of Mr. Baynton, from whose theory he differs *toto cælo*, although he admits the general efficacy of his plan. What he has said on this subject is deserving of perusal; but we shall content ourselves with referring to it, and proceed to describe the method which our author proposes to substitute.

After the general discussion on ulcer, to which the first portion of the work is

* Preface, p. 11.

devoted, we come somewhat unexpectedly upon an entirely new section or division, entitled—"On some Medical Properties of Opium;" and this soon brings us to the gist of the matter: opium is *the* remedy. The principle maintained by Mr. Skey is, that the medicine in question, when administered in small doses, excites the action of the minute arteries throughout the body generally; its influence, however, is not supposed to be limited to those vessels, but to extend to the remote distribution of the nervous system also. In advocating its use, however, the author does not indulge in a blind and indiscriminating commendation; he requires certain preliminaries, more especially that active inflammation should be subdued.

"I do not profess (says he) to cure every, nor indeed any, description of ulcer by means of opium. There is great difference between *curing* and *healing* an ulcer. The term 'to cure' is much more comprehensive in its application, and embraces every variety of change, whether healthy or morbid, through which an ulcer travels to the final process of perfect cicatrization. The term to heal is applicable only to the last stage, including the secretion of lymph, its organization by vessels and nerves, and the investing process by the formation of skin; and this power I claim for opium under certain essential restrictions.

"For example: it is less efficient in florid or sanguineous temperaments: not that its influence is less marked, but because such habits are usually deranged by all narcotics. It is less efficient in youthful age or childhood, from the natural susceptibility of both nervous and sanguiferous systems attendant on that period of life; and it is objectionable in cases in which malignant disease is present in the system, to the development of which, I believe, it would exhibit a tendency, should the disease assume an active form, although its influence on the nervous system, when administered in larger quantities, is highly favourable to the mitigation of pain."

The following account is given of the circumstance which first led him to try this remedy in the healing of ulcers:—

"A second circumstance occurred to me which encouraged me to experiment further on the influence of opium. A

friend of mine, a man of languid circulation, of about 30 years of age, suffered during the winter months very severely from cold feet, and, having been touched by the absurd mania of opium-eating, which became so general after the publication of Mr. De Quincy's book, continued the practice by resorting to the use of the drug occasionally, and in the diminished dose of a single grain. While discussing with him, on one occasion, the subject of opium, he stated to me what he had long observed, that no article of clothing operated so effectually in keeping his feet of a uniform and agreeable temperature, as a single grain, or grain and half of opium; that he frequently resorted to it in cold weather; and that its effects on his general health were perfectly nugatory. This occurred to me in the summer of 1834, while on duty at St. Bartholomew's Hospital, during the absence of Mr. Earle from town. My attention was directed to a case of ulcerated leg, which had baffled the repeated efforts made to heal it, during a considerable period. The patient was a man aged fifty-five. The ulcer, which was about three inches in diameter, occupied the outer side of the right leg, at one-third of the distance between the ankle and the knee. It was much excavated, and surrounded by an elevated mound of morbid integument. Its surface was pale and flabby, without the vestige of a granulation, and secreting a watery ichor. He had occupied a bed in the hospital for two months, and during this period the usual routine of remedies, general and local, had been resorted to. In the minds of those around, who had repeatedly seen it, there was a difference of opinion, whether the sore was or was not smaller since his arrival. I ordered all local applications, excepting lint moistened with cold water, to be discontinued, and prescribed for him half a grain of solid opium, to be taken internally night and morning. In three days it was evident that the sore was about to undergo some change; the secretions were improving, and the general tone of colour, as artists term it, was heightened. At the termination of the first week the sore secreted healthy pus, and its base was covered with what Mr. Pott would have called a florid incarnation. At the end of the second week a second important change was in

progress. The elevated margin was being reduced, and the granulations were rapidly rising towards its level. In one month this antique sore, which had defied bandages and escharotics, poultices and plasters, was in the last stage of existence, when the man left the hospital, under the assurance that he would return if the sore did not progressively and rapidly reach its final consummation."

In many cases, Mr. Skey says that a decided effect is produced by eight drops of laudanum twice a-day: but half a grain, or two-thirds, may be stated as his average dose, and two grains night and morning as a very full one. Provided the patient has an open ulcer of the character above described, the opium, so far from constipating the bowels, rather tends to keep them open, while it improves the general health and invigorates the frame. As to the rest, Mr. Skey's directions are to clean the wound daily, covering it with some unirritating dressing, and rolling it "simply and lightly." If the granulations become large and pale, but only in a slight degree so, the wound or ulcer is to be exposed for a quarter or half an hour to the air, and then dressed as before. If the granulations be more luxuriant, and more especially if they project above the level of the skin, they are to be covered "with the flue of dry lint, scraped with the edge of a knife, and applied to its surface in a considerable mass." The application in question is stated to be a powerful stimulant, and the finer it is the better.

Such are the principal points in Mr. Skey's pamphlet, and we hope we have said enough to induce other surgeons to refer to the original for the details.

MEDICAL GAZETTE.

Saturday, August 5, 1837.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

EXAMINATIONS AND REJECTIONS AT APOTHECARIES' HALL.

WHEN the Committee appointed to make a report upon medical education began

to direct their attention to the Worshipful Society, the first thing which arrested them was the definition of an apothecary, and they pressed Mr. Nussey with several questions upon this point*. The definition suggested by the chairman, and to which the witness assented, was as follows:—"Is he a person who attends an individual afflicted with some internal disease, not requiring external or manual aid; who prescribes for the cure of such complaint, and supplies the medicine?"

In other words, the apothecary may be defined to be a physician, who dispenses the medicine which he prescribes; though it appears by Mr. Nussey's next answer, that he is sometimes a physician without that limitation. Perhaps a better definition would be, that the apothecary is the physician of a large class of society, who prefer postponement of their payments to a future day; we may infer that the objects of the examination by the Worshipful Society must be—

First, to provide the community with such physicians; and,

Secondly, to take care that the standard of their education shall correspond to the station they fill.

But it is our misfortune in the present state of matters, that while the parent pays for at least a five years' education, the student is really instructed for only two years and a half. We have so often delivered our sentiments on the present lamentable system of apprenticeships, that it is needless to repeat them in this place. But there is one point which we cannot reiterate too often—namely, the atrocity of allowing the first half of the apprenticeship to be spent merely in mixing medicines. If the master is incapable of teaching his pupil the elements of *materia medica* and chemistry, and the art of read-

* Report from the Select Committee on Medical Education; with the Minutes of Evidence, and Appendix. Part III.

ing prescriptions, he should be compelled to let him learn them elsewhere; in short, when the first moiety of the apprenticeship has expired, the pupil should be formally examined on these subjects before he proceeds to others, and made to demonstrate that the period of his apprenticeship is not being spent in vain.

If, however, the system be continued of having five years' education in name and expense, but only two and a half in reality, it is abundantly clear that the lectures demanded are too numerous to be crowded into the shorter period. We showed on a former occasion* how improbable, or rather how impossible, it was, that the student should be able to attend at once the lectures prescribed by the Worshipful Society and the College of Surgeons. Nay, to attend those alone which are enjoined by the Society (within the thirty months), demands a zeal as well as a physical endurance which is hardly to be met with. It is not very easy even to contrive a scheme by which the student shall, during the same season, attend medical lectures punctually, go to his hospital daily for some two or three hours, dissect diligently, and not only hear sixty lectures on midwifery, but attend labours to boot. Nor is this all; for if we wish him to derive sufficient profit from his lectures, we must allow him time for a course of reading at home. How is all this managed practically? Alas! the Gordian knot, so difficult to unloose, is cut with the greatest facility. The pupil who theoretically attends so many lectures, very often is present at a few only; may we not say sometimes, at scarcely any, or at none? The certificates, indeed, are filled up, but certificates — are not always what they ought to be†. As long,

therefore, as the period of the curriculum is confined to thirty months, the number of subjects embraced in it should be curtailed. Those who can afford to extend the time should be encouraged to add the ornamental, and higher parts of medicine; but those who are restricted by the *res augusta domi* to the minimum of time, should be confined to that which is absolutely necessary.

"I think, then," says Dr. Latham, "considering the limited period which the majority of students can devote to their education, a great deal too much is required from them as preparatory to their becoming practitioners. Among the multiplicity of things which they must bring certificates of having learnt, there is a fear that they learn some very imperfectly, and some they do not learn at all; and there is a chance that what they thus learn imperfectly, or not at all, may be the very things concerning which it is most important that they should be competently informed. And such is really the fact. So pressing upon the student's mind and time is the necessity of attending a multiplicity of lectures, that he has neither attention nor leisure left to bestow upon the observation of diseases and the effects of remedies‡."

And he afterwards adds, "Observe, I am not captiously finding fault with these formal requisites of medical education. The things themselves are excellent; but I cannot help wishing, either that fewer had been demanded,

attended the course of lectures, that commenced on such a day, terminating on such another day, and consisted of so many lectures; but it does not certify that he has attended regularly. Is any certificate required, stating the number of lectures out of the whole course that the student attended? The teacher is accustomed to remark upon the certificate whether the student attended, whether he attended regularly, or diligently, or very diligently, according to his feelings upon the subject. We at present have no means of ascertaining whether the student has *bonâ fide* attended; we rely entirely (and we hope with sufficient reason) upon the integrity of the teachers."

† Clinical Lectures, p. 32-3; also in MED. GAZ vol. xi. p. 103-4.

* Vol. xvi. p. 281.

† The following is the official theory of certificates:—At p. 45 of the Report, Mr. Ridout is asked, "This is a certificate that the student has

or that more time had been allowed for mastering them*."

All the subjects enjoined are so interesting in themselves, that it would be painful to cut any one of them off; but should this be found absolutely necessary, we should agree with Dr. Latham in rejecting or postponing botany and forensic medicine; but midwifery, with the diseases of women and children, which he includes in the same ban (p. 34) and condemns with fainter praise, seems to us as necessary as the practice of physic, to which it is an appendage; it is merely supposing a course on the practice of physic to consist of one hundred and sixty lectures instead of one hundred; and no one could think this too much.

Our opinion as to the manner in which the years of apprenticeship are too often trifled away, without the acquisition of even the most elementary branches of medical knowledge, is strongly confirmed by a curious document appended to the Report. It is a return of candidates rejected by the Court of Examiners in 1831, 1832, and 1833, with the reasons for their rejection, and the places where they studied; and it is a valuable contribution to what would be called in modern phrase, *the statistics of plucking*. The rejected of Blackfriars during those three years amounted to more than 200; and of these a great number were unable to read and translate prescriptions. What had their masters taught them, then? Why, probably, to mix up half a dozen kinds of pills and draughts, and nothing more.

Perhaps it may be interesting to our readers, and useful to some of the younger portion of them, if we go through the ordinary topics of medical study, as influencing the rejection of candidates in the Return before us.

Anatomy and Physiology.—Ignorance of anatomy occurs only five times as the sole cause of rejection, but very frequently in conjunction with other deficiencies; thus the sixth candidate rejected (p. 127) is stated to have been ignorant of anatomy, and very imperfect in chemistry and materia medica; and at page 128, there is one deficient in anatomy and botany; and another, "ignorant of anatomy, and very deficient in practice of medicine. His knowledge of chemistry and materia medica very respectable."

It is generally understood that minute anatomy is not required at the Hall. A correspondent, however, some years since complained that two candidates were rejected, because, after acquitting themselves to the entire satisfaction of the examiner in all the other subjects, and also in general and visceral anatomy, they were unable to give a minute account of the origin, course, and distribution, of the branches of the subclavian and axillary arteries*.

It must be confessed that these alarming stories of rejection on account of failure in answering one or two questions usually come from very suspicious sources, namely, from the ignorant and disappointed, who are naturally willing to make it appear that no one can pass the examination unless he be exempt from all trace of human frailty. There is, however, one instance in this Return, where something approaching to minute anatomy seems to have been required; for at page 132, one of the rejected is stated to have been "very imperfect in chemistry, and ignorant of the stricture [structure] of arteries and veins."

Ignorance of physiology is mentioned only once as a cause of rejection (page 131), and then the candidate was also ignorant of Latin and chemistry.

* Clinical Lectures, p. 35; and in MED. GAZ. vol. xi. p. 104.

* MED. GAZ. vol. viii. p. 432.

Chemistry was often a stumbling-block; and in one instance it is stated that the candidate was "not much skilled in chemistry." Several candidates are said to have been ignorant on the subject of poisons: one was "very deficient in the properties and doses of medicines, and of the treatment of poisons."

"Deficient of the treatment of poisons" is not a very happy phrase, but probably means "deficient in the treatment of cases of poisoning."

Materia Medica is the subject which we should suppose the most familiar to those who for five years have breathed an atmosphere of drugs; but it is not so in reality, and we believe it sometimes happens that the student, at the termination of his *studies*, does not recognize the commonest articles of the *Materia Medica* when placed before him. The rejections for ignorance of *Materia Medica* are exceedingly numerous in the Return. Other deficiencies are of course often combined with it.

Botany sent back some pupils, but never except when assisted by other subjects.

Ignorance of *The Practice of Physic* is often mentioned as a cause of rejection, but never unaccompanied by other deficiencies.

Midwifery is not mentioned *eo nomine*; but one candidate, among other things in which he was wanting, was "altogether uninformed upon any of the diseases of females*."

Latin, and the *translation of prescriptions*, would appear to be the most difficult of all subjects to the aspirants, if we may judge from the frequency of the rejections which they entail. Not to mention the great number of rejections from ignorance of these points in the Return, it appears from a report of the Court of Examiners, dated

July 28, 1836, that of 106 plucked in the preceding year, 36 had been "rejected solely on account of their defective knowledge of the Latin language*." It is a painful proof of the deficiency of elementary knowledge among pupils, that not a few have been found incapable of translating a single prescription: many are stated to have been generally deficient; and there was one who was "ignorant of the temperature of the body, of a warm bath, and of freezing water."

The proportion of the rejected to the examined is very great; for we find that from August 1, 1815, to July 31, 1834, the rejected were 795 out of 7,028 examined; so that in these years rather more than 1 in 9 were rejected,—the proportion, however, being greater in the latter years. Thus the proportion was—

In 1828—29	.....	1 in 6
1829—30	.....	1 in 6
1830—31	.....	1 in $4\frac{1}{2}$
1831—32	.....	1 in 6
1832—33	.....	1 in $5\frac{1}{2}$
1833—34	.....	1 in 8

This great proportion of the rejected to the examined strongly tends to confirm our opinion that too many subjects are crowded into too few years; and that if the time be not increased, the number of lectures ought to be diminished.

PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

THE anniversary meeting of this society was held at Cheltenham on the 19th and 20th ult., on which occasion a large number of professional men assembled together—some of them from distant parts of the kingdom.

Dr. Boisragon presided, and took the opportunity of entering at some length into the history of the Mineral Waters of the district;—while he adduced as a proof of its general salubrity, the fact of sporadic diseases scarcely making their

appearance; even cholera, when prevalent all around, had not exhibited a single case in Cheltenham.

On Friday, the 20th, the members dined together; and every thing passed off in the most satisfactory and gratifying manner.

A very lengthened report of the proceedings, with the speeches and mutual glorification, given in true style of newspaper hyperbole, is to be found in Berrows' Worcester Journal of July 27th. The Association must feel that we have always shewn a friendly disposition towards them; we therefore trust they will take in good part the caution which we now venture to give them, namely, to guard against the outrageous laudation of indiscreet friends, which has, on this occasion, been so extravagant, as to make the account of these proceedings border closely on the ridiculous—the most dangerous of all feelings for any such meeting to excite.

The Report of the Council of the Provincial Medical and Surgical Association, for the year 1837.

If the annual statement made by the Council of the Association has, on former years, been regarded with deep interest by the members at large, it is certain that on the present occasion there will be no diminution of desire to know the progress that has been made in the prosecution of our great designs since the anniversary meeting at Manchester. For since that meeting grave considerations have engaged the attention of the Council—considerations which involve questions of vital importance to the future prosperity of our flourishing institution.

The most important announcement we have to make, is one which will at once convince those, if any such there are, who doubt the onward course of prosperity of the Association, that the advancement made during the past year in public estimation, far exceeds that of any former period of a similar extent; for the number of members, during the year, has increased from six hundred to nine hundred and forty; whereas, in former years, the increase has never exceeded one hundred and seventy members.

District branches.—This great increase in the number of members is very much to be attributed to a modification of the existing constitution of the Association, which the Council have considered it desirable to adopt during the past year, and which they trust will receive the sanction

of the members at this anniversary, and become, in future, part of the laws of the Society.

It will be in the recollection of many of the members now present, that at the Manchester meeting a committee was appointed to confer with a deputation from the Eastern Provincial Medical Association, respecting the junction to be formed between the two societies. That committee, unwilling to come to a determination adverse to the Eastern Association, thought it right that the members at large should have the opportunity of forming a deliberate judgment on the subject, and, therefore, recommended that the consideration should be postponed, with a view to arrangements being devised which might be satisfactory to all parties.

Your Council have to report that, much to the honour of those who managed the negociation for the Eastern Association, no long time elapsed after the meeting at Manchester, before a communication was received by the Council, from the Secretary of the Eastern Association, stating, most explicitly, the desire of that body to dissolve themselves as a separate Association, and to become members of the Provincial Association, still, however, reserving to themselves the right to hold meetings in the Eastern counties, and to consider themselves a District Branch of the Association. This proposition, so very creditable to the high feelings and sober judgment of the members of the Eastern Association, the Council did not hesitate to comply with, and it only then remained to devise the means by which this District Branch might be carried on.

Subsequently to the junction of the Eastern Branch, District Sections have been constituted, upon similar principles, at Wells, at Bath, and at Southampton, the latter embracing within its limits the Southern counties generally.

When the Association was instituted, the constitution given to it was adapted to its probable wants and extent, and great care was taken not to overload it with rules and regulations beyond what might be required; simplicity and efficiency were sought to be combined, and the experience of the last five years may be adduced to shew that the early projectors did not fail in their design. With a rapidity, however, unexampled in the annals of the profession, and almost in the annals of social institutions, has the Association increased, so as to spread over the kingdom to an extent which the most sanguine of its earlier friends could never have anticipated.

From such increase, and from the wide extent of district now embraced, certain

wants have arisen which require to be systematically supplied. In this respect the Council have preferred waiting until the wants should manifest themselves, rather than by an anticipation which might prove hasty and unfounded, hurry into legislative provisions for which the necessity might never arise. The necessity has manifested itself unequivocally, as your Council have already shewn. The Council have hitherto met it in the way which their best judgment directed, and, guided by past experience, they now render to the members in general an account of what they have done, and submit to their consideration the further measures which will be this day proposed for their sanction. The following regulations are those which they would recommend as fitted for the general construction of the District Branches.

Proposed Resolutions.

1. That in order to fulfil more effectually the several purposes for which the Provincial Association was formed, it is expedient that a still more intimate union of its members be promoted, by the establishment of District Branches.

2. That members of the Association be at liberty to form District Branches wherever it may suit their convenience.

3. That in order to facilitate the formation of such Branches, and maintain uniformity amongst them, the General Council provide suitable instructions for the guidance of those who may unite in instituting them.

4. That conformity with these instructions be further insured, by the initiating proceedings, and organization of each Branch, being submitted to the General Council, for their revision and approval.

5. That the District Branches be free to govern themselves as their respective members may think fit; but that the bye-laws, ordaining the special government, be submitted to the General Council previously to their taking effect, in order to guard against the possibility of any such bye-laws contravening the fundamental laws of the Association.

6. That all members appointed to offices by the District Branches be forthwith enrolled as members of the General Council, on the appointments being officially notified to the General Council, it being highly expedient that all who engage in the executive management of the District Branches, should be also members of the General Council.

7. That the expenses incurred by the District Secretaries in conducting the proceedings of the District Branches be defrayed from the general fund, provided

such expenses do not in any instance exceed one-seventh part of the guinea subscribed by each member enrolled in the District Branch.

8. That if any circumstances arise in the formation of District Branches which call for a larger expenditure than what is allowed by the foregoing resolution, such expenses, provided they do not exceed one-fourth of the guinea, may be allowed by a statement of the circumstances being made known to the General Council.

Finances.—The Council have much gratification in reporting that the funds of the Association are in a prosperous state.

	£	s.	d.
The receipts are.....	1010	8	11
The expenditure	698	6	10
Balance in hand	312	2	1

The expenditure has been larger this year than formerly, from several causes. Firstly, from its having become necessary to publish a second edition of the First Volume of *Transactions*; secondly, from the increase in the number of members rendering it desirable that a large impression of Volume V. should be published; and thirdly, from the Council having consented to the request made by the Poor law Committee, to publish a second edition of the *Poor-law Report*, together with an *Appendix*, containing valuable information respecting the operation of the new system of parochial medical relief.

Transactions.—The contributions of the members have enabled the Council to publish a Fifth Volume of *Transactions*, which will bear a comparison with the preceding volumes, and contains information on almost all the subjects proposed for investigation by the Association. There is one subject, however, to which the Council deem it right to direct the attention of the members; it is the paucity of Hospital Reports. It is matter of surprise, considering the interest which now attaches to one very important branch of medical inquiry—vital statistics—that so little should be done upon this subject by provincial practitioners. Hospitals and infirmaries, by congregating together a considerable number of sick persons, in this kingdom, afford ample means for forwarding our knowledge on this important subject; and it is much to be hoped that the members of this Association who are connected with sanitary institutions will use their utmost endeavours to promote these inquiries. In the British Medical Almanack they will find detailed accounts which may greatly assist them in carrying on these pursuits.

The Council reflect with much pleasure

no the increasing circulation of their *Transactions*. The impression which at first was five hundred has now reached twelve hundred. A second edition of Volume I. has been published, and a second edition of Volume IV. is now called for; and it will probably be necessary at no distant day to answer that call.

Parochial medical relief.—During the year of which your Council are now taking a retrospect, the labours of the Poor-law Committee, from which so excellent a report emanated at Manchester, have been continued. The Committee sent a printed Appendix to that Report to every member of the Council; they afterwards revised the Appendix, added to it, and published it together with a second edition of the Manchester Report, and it is now on sale, and ought to be in the hands of every member of the profession, as it is now appealed to as an authority upon this subject, and has been very favourably reviewed by every medical journal that has noticed it. Acting on the suggestion of the same Committee, your Council thought it right to address a circular letter to every town in the kingdom, recommending petitions to be sent to Parliament, praying for an alteration in the system of parochial medical relief. The mode in which that appeal had been answered, is testified by the numerous petitions which have been laid on the tables of both the Houses of Parliament—petitions which at any rate will have the effect of convincing the legislature that the medical profession, as a body in the community, have political rights, and that the dictates of humanity for the sick poor, and the calls of justice to medical men, require that some alterations should be made in the mode of parochial medical relief.

Benevolent Committee.—The members of the Association will be glad to learn that the benevolent fund (the rules and regulations for the management of which were finally adopted at the anniversary meeting of last year held at Manchester,) is already in operation, and is believed to have been the means of rendering very essential aid in two instances of undeserved misfortune befalling highly respectable members of the profession. The state of the finances, with other matters concerning the benevolent branch of the Association, will be stated in a short report that will be presented from the Central Committee.

Registration of diseases.—Your Council think it right to advert to the new Act for the registration of diseases. It will be recollected that at the Bristol meeting this Association sent a petition to the legislature on this subject; and now that a measure had been adopted to remedy the

evil, your Council feel assured that every member will feel called upon to do his utmost towards rendering it effectual. As intimately connected with medico statistical inquiries, to which a correct registration of diseases is of such paramount importance, the Council beg to recommend that the members of the Association individually should endeavour to produce quarterly or annually a meteorological report, in order that a regular periodical contribution of the same from various districts to the Association may be arranged and prepared for publication in the *Transactions*.

Prize Essay.—No further contributions have been received for the Prize Essay Fund, but the Council have to announce that Dr. Thackeray has increased his already liberal donation to fifty pounds, to be given as a prize for the best essay on a medical subject, to be fixed upon at the anniversary meeting at Cheltenham. The prize which the Council propose shall be called the *Thackeray Prize*, to be open to the competition of the members of every accredited school for medicine and surgery in the United Kingdom, and the essays to be sent to the secretaries one month previous to the anniversary meeting in 1838.

On the advancing progress, and on the brilliant career of this vigorous and energetic association, it is scarcely necessary for your Council to dwell. Already has it in a few short years established for itself a name and a character which other similar societies have been long in acquiring. Our anticipations for the future are encouraging and ardent. They lead us to expect that pursuing with zeal, steadiness, and judgment, the course of investigation which they have so auspiciously begun, the members of this Association will have the bright and pleasing reward of having aided by their exertions in extending the empire of human knowledge, and of diminishing the amount of suffering and misery.

ST. GEORGE'S HOSPITAL.

Cataract ; Solution—Amputation of great Toe — Painful Subcutaneous Tubercle — Compound Fracture into the Ankle joint ; Amputation ; Ossified Arteries—Two Compound Fractures of the Leg ; not amputated—Diseased Knee joint ; Amputation — Compound Fracture of the Skull ; Trepanning.

JUNE 15th — Two operations were performed by Mr. Babington. The first was a case of cataract in a lad of about 14 years of age, who was said to have become

blind when two years old, though, from the appearance of the cataract in both eyes, the disease was probably congenital. The eyes were in constant tremulous motion, but otherwise free from disease, though wholly insensible to light. Being placed on his back, a needle was introduced through the cornea, with the view of breaking up the lens and its capsule; but the capsule was found to be so thick, that no impression could be made on it beyond a mere puncture, as the whole moved with the instrument when it was turned. No inflammation followed; and on the next operation day (the 22d), a needle was intruded through the sclerotic, and with this a rent was made through the opaque capsule, of some size, in the right eye. Some inflammation took place, which required bleeding; but a good deal of vision is now allowed, and by a repetition of the operation probably both eyes may be restored to sight.

The other operation was the removal of the great toe in a man, for disease of the first phalanx; which was done in the usual way by two flaps, the bones being cut across in front of the joint.

20th.—Mr. Hawkins removed one of those curious and rare little tumors, described under the name of "painful subcutaneous tubercle." The patient was a man whose leg Mr. Hawkins had removed some months previously, and the little tumor, being over the ligament of the patella, gave him much inconvenience in the use of his wooden leg. It had existed four years, and was about the size of a small pea, hard and firm, without attachment to the skin, and unattended with pain, unless rubbed in a particular direction upwards, when a violent and peculiar sensation was produced, like an electric shock, pervading his whole body, and sometimes almost inducing fainting. It had a smooth secreting cyst below it, which Mr. Hawkins said was not very common, and was of a firm dense structure, and of a dark white colour, without any appearance of nerve.

Mr. Hawkins gave a description of the disease after the operation, and said they were sometimes considered as tumors of nerves, but that he agreed with M. Dupuytren in thinking the presence of a nerve of any size in it was rare, and that they seemed only to be a peculiar fibrous tumor, with a singular sensibility, independent of nervous enlargement. He said the best description he knew of the disease was in Dupuytren's *Clinique Chirurgicale*, except that that gentleman believed the tumor had a malignant tendency, of which Mr. Hawkins did not know that there was any evidence. The man being an out-

patient did not shew himself again for ten days, when suppuration was found to have taken place under the skin, requiring his admission into the hospital for the purpose of incision. He is now well.

On the following day (the 21st) Mr. Hawkins amputated the leg, below the knee, of a man, about 60 years of age, who was admitted about 1 p.m., just after his leg had been run over by a cart. The tibia was broken an inch above the ankle, and protruded two inches through the skin; the fibula was broken two inches above. The wound was a good deal torn, and the leg emphysematous for some distance. He at first refused amputation, but in the evening agreed to its performance; and on examining the joint after removal, it was found, as Mr. Hawkins supposed, that the fracture extended into the ankle-joint, the articulated surface being broken perpendicularly into four distinct pieces. During the amputation, both tibial arteries were found to be much ossified, so as to crack under the ligature, and one of them required to be tied twice, on account of its brittleness. For fear of hæmorrhage, the stump was left open, and ice applied. About three hours after the operation, a general oozing of arterial blood was observed, but no vessel of sufficient size to be tied was discovered, and the bleeding did not return after the surface was covered with lint dipped in Ruspini's styptic. The next day he was tolerably comfortable, but on the 23d became very restless and irritable; the next day he was cold and delirious, and subsequently fell into a dozing stupor, and died on the 25th. His death was attributable only to his great intemperance, as nothing wrong was found in the stump nor elsewhere on a post-mortem examination.

During this week Mr. Hawkins admitted nearly twenty severe accidents, one of which required amputation at the shoulder-joint; and among them were two other compound fractures of the leg. One was a comminuted fracture of the tibia, near the knee-joint, from the kick of a horse; the other was a fracture from a fall, which appeared likely to have extended into the ankle-joint. Both these patients were women, and both are now doing well (July 24th.)

On the 22d (the day after the last amputation) two operations were performed, besides that for cataract already mentioned.

The first was an amputation of the thigh, by Mr. Babington, for disease of the knee-joint of long standing, with abscesses round the joint in various direc-

tions. The joint itself was small, and soft ankylosis had begun in it in several places, the cartilages of the patella and inner condyle being ulcerated,—so that, but for the external abscesses, some progress had been made towards a cure. There has been nothing remarkable in this case since: the wound did not unite, but it is going on well (July 24th.)

The other operation was that of trepanning, which was performed by Mr. Cutler. The patient, a young man, had been kicked by a horse, two days previously, in the forehead, which had caused a good deal of depression of bone, with a wound leading to it. There were at first no symptoms, which, we suppose, was the reason Mr. Cutler did not operate. The next evening, however, he began to be sick and feverish, and this morning was restless, tossing about much, with loss of memory, and an anxious expression. The wound being enlarged, two pieces of bone were removed by the trephine, which allowed the splintered and depressed pieces to be elevated and extracted. A wound was now seen, about half an inch long, made by the depressed bone, in the dura mater, and out of this a considerable quantity of blood issued per saltum. It appeared, however, to come from a large vein on the surface of the brain, and soon ceased after a little lint was held on it for a short time. The operation was not attended with any relief, and stupor came on in the evening, which continued during the next day, and he died early on the 24th.

On examination of the body on the following day the brain was found to have been a little bruised below the seat of the injury, and there was a good deal of recent lymph on the surface of the hemisphere, between the arachnoid and pia mater, as well as on the surface of the former; and there was also some serum in the ventricles.

CASE OF DELIVERY

OF

A FŒTUS THROUGH THE ABDOMINAL PARIETES.

ON the 11th of November last, I was called to a negro woman residing in the village, who was labouring under uterine hæmorrhage. She was about thirty-five years of age, of robust constitution, and the mother of six living children. According to her own calculation she was in the eighth month of pregnancy. A few days before, while making up a bed, she

had been suddenly seized with pain in the abdomen, which was soon followed by a slight discharge of blood from the uterus. The pain and hæmorrhage frequently recurred, but was not so severe as to prevent her from attending to her usual employment until the evening I was called in. The hæmorrhage at this time was somewhat alarming and the pain very distressing, though confined chiefly to one side of the abdomen. As she was of a plethoric habit, and her pulse full and strong, I bled her freely, and gave two grains of the acetate of lead, with the quarter of a grain of opium, every half hour, and directed the application of cold cloths to the region of the pubis. After continuing this course for six hours the flooding diminished, but the pain continued without any amendment. I bled her again to the extent probably of sixteen ounces, and continued the acetate of lead and opium at longer intervals; some laxative was likewise given, and the cold applications kept applied. Twenty-four hours expired without any material change in her situation, except that the abdomen became more painful to the touch, and the breasts somewhat tumid and tender. The flooding was not at this time profuse, but its continuance induced me to believe that delivery would soon take place. She was again bled to twelve ounces, and the acetate of lead and opium discontinued: the cold applications were used only occasionally. After waiting perhaps twenty-four hours, I made an examination of the os uteri, and found it not larger than a twelve and a half cent piece, and very rigid. The finger, instead of passing through a circular opening with thin edges, as at the full period of uterogestation, passed through a narrow channel of more than an inch in length. It was evident, therefore, that the neck of the womb had not yet expanded. I could distinctly feel the head of the child through the membranes, but the placenta was nowhere in reach. After thus satisfying myself that it was not a placental presentation, and that the rigid state of the os uteri forbade the administration of ergot, I introduced the tampon, gave fifty drops of laudanum, and left the patient for twenty-four hours. I will mention by the way, that up to this time, and during the progress of the case afterwards, her bowels were evacuated daily by some laxative medicine or mild injections.

The opiate procured some sleep, but it had not changed in any respect the general aspect of the case. The os uteri remained rigid and unyielding, and the pain incessant, without appearing to act in the slightest degree on the contents of the

uterus. The flooding continued, and though not profuse, its constancy began to weaken the patient, and excite some anxiety in my mind as to its final result. About this time (between three and four days after I commenced treating the case) the tension and soreness of the breast subsided, and she no longer felt the motion of the child. The liquor amnii had likewise been discharged. These evidences of the death of the foetus were soon confirmed by the offensive character of the discharges. The pain appeared to be fixed at this time in the left hypochondriac region, and remained stationary for many successive days. Her respiration was from the first somewhat obstructed by an accumulation of frothy mucus in the bronchi. This symptom continued throughout, and was a source of great distress and uneasiness.

It would be impossible for me to give any thing like a detailed history of the case, or its treatment, for the next twenty days. Various conjectures arose in my mind during this time, in regard to the nature of the case, and the causes which probably retarded the expulsion of the foetus. The equivocal character of the symptoms, however, prevented my arriving at any positive conclusion. The possibility that the uterus might be ruptured certainly occurred to my mind, but such a conjecture was unsupported by the symptoms; and even if I had been irresistibly led to this conclusion, the circumstances of the case would not have justified a forcible entry into the uterus. The operation of gastrotomy would have been equally rash. The placenta came away about the twelfth day of her confinement, partially putrid. The ergot was afterwards administered in scruple doses, but the stomach rejected it immediately.

Repeated efforts were made to dilate the os uteri; but no force, prudent to use, could overcome its rigidity. Large doses of opium were given, but they produced no effect other than a mere temporary respite from pain. A small blunt hook was cautiously introduced into the womb, to try if possible and break down the bones of the cranium, but their firmness bade defiance to such a feeble instrument. After being thus defeated in all my attempts to deliver her, little else was done for many days but to examine occasionally the os uteri, give opiates, mild tonics, and use such injections per vaginam as were best calculated to correct the offensive nature of the discharges. Though harassed and debilitated by pain and the loss of blood, the patient's pulse remained firm, and her appetite tolerably good; and yet a situation apparently more hopeless and wretched cannot well be imagined. That

sympathy, however, which never yet slumbered around the bed of travail, was particularly active on this occasion. Nothing, indeed, was left untried, which benevolence or zeal could suggest, to alleviate her sufferings or inspire her with courage.

About the 10th of December the nurse called my attention to a small circumscribed tumor, about the size of a chesnut, a little below the umbilicus, to the right of the linea alba. I will remark, that for six or eight days previous to this time, the pain seemed to be confined chiefly to this part of the abdomen. The tumor felt very soft, and communicated to the touch a sense of fluctuation. At its base there could be distinctly traced a muscular ring, very hard, and rather more than half an inch in diameter. Gentle pressure on the tumor did not appear to give much pain; but when the end of the finger was forced into the ring, she complained of excessive pain. The moment I saw and examined this tumor, I felt satisfied that there was a solution of continuity of the uterus, and that the foetus was making its way to the surface. The subsequent history of the case will prove that my opinion was well founded.

The woman's general health had not suffered as much up to this time as might have been expected. Though very much emaciated, her strength had rather improved under the influence of the tonics, and the generous diet that was allowed. Her pulse, though quick and irritable, indicated no disposition to sink. Under these circumstances I determined to postpone, for a few days at least, any operation that might be deemed necessary for the safety of the woman. Large emollient poultices were kept constantly applied to the abdomen. On the 13th, three days after the tumor was first discovered, it was considerably enlarged, and the muscular opening or ring, at its base, probably two inches in diameter. A consultation was requested, and Dr. Singleton, of the adjoining county was called in, when it was agreed to open the tumor; this operation I performed with a common abscess lancet. A slight incision was made into the apex of the tumor, when about half a pint of thin greyish matter issued, together with a portion of gas, which filled the room with a very offensive odour. A probe was introduced, which soon met with resistance, so as to leave no doubt on our minds but that the foetus was fast approaching the surface. It was deemed prudent, however, to defer any farther attempts to extract it until the morning.

On the 14th the incision was enlarged, the muscular ring having expanded in the meantime so as to admit the hand. The

putrid mass was then drawn to the opening by means of forceps and a small blunt hook, so as to enable me to grasp it with my right hand; this I readily accomplished, and by using moderate force extracted the entire body. The bones of the cranium, however, were left behind, and increased very much the difficulties of the operation. I was under the necessity of introducing my hand through the incision down into the body of the uterus, so as to separate the bones and bring them away in pieces*. Mild soap-suds were then injected through the incision into the uterus, followed up by a pretty strong decoction of Peruvian bark. The edges of the incision were then drawn together, and confined by long strips of adhesive plaster; tight dressings were applied, and a wide bandage drawn around the abdomen; after which a large opiate was given, and the poor woman left to enjoy, for the first time in four weeks, a quiet slumber. The discharge from the opening was very profuse and offensive for several days; the injections, however, were repeated every morning, and for several successive days large poultices were applied, made of charcoal and Peruvian bark in equal quantities. The tonics and opiates were still continued, with a liberal allowance of nutritious food. Under this treatment healthy granulations soon made their appearance, and the incision healed up entirely in about five weeks.

While the healing process was going on, I could at any time distinctly see the lining membrane of the uterus in the bottom of the wound; and could with perfect facility introduce my finger into the cavity of that organ.—*Dr. S. H. Harris, in the American Journal of Medical Sciences.*

REMARKABLE MALFORMATION OF THE HEART,

In a Child affected with Cyanosis.

BY PROFESSOR HOLST.

A LITTLE girl (N.) enjoyed perfectly good health until she was two years old, when her skin began to become blue, especially at the parts most distant from the heart. She then began to have feelings of suffocation, giddiness, and spasms. These attacks were usually followed by sleep, after which the blueness of the skin was less. Violent palpitations of the heart, with dif-

ficulty of breathing, coldness, and frequent hæmorrhage from the nose, gradually succeeded; and though their frequency diminished, yet their violence and duration gradually increased. During the paroxysms, the left side became colder than the right, and the pulsations of the arteries at the wrist of the left arm could not be felt. She died suffocated in one of these paroxysms. The following were the chief results of the post-mortem examination:—

The heart was very large, and its right side was larger than its left. There was a communication between the two auricles, not only by the foramen ovale, which remained open, but also by an abnormal opening. The aorta and the pulmonary artery arose from the right ventricle. These arteries and all the others were smaller than natural. The lungs were remarkably small, and the thymus gland was unusually enlarged.

From the above arrangement of parts, it follows that there must have been a mixture of the venous and the arterial blood. As, therefore, the blood received by the lungs was partly venous and partly arterial, and the calibre of the pulmonary artery was small, the imperfect development of the lungs is accounted for. The large size of the veins and the venous nature of the blood depended on the double communication between the cavities of the heart and on the mixture of the two kinds of blood. The large size of the thymus gland is curious; for its enlargement is always found to accompany the permanent openness of the foramen ovale.

The left subclavian artery arose from the upper angle of a triangular sac, into the two other corners of which opened the left vertebral artery and an abnormal canal, occupying probably the place of the passage of the foramen ovale. By this last the sub-clavian artery was in communication with the left branch of the pulmonary, but as this canal was very small but little blood could enter into the subclavian artery. It seems to have received most of its blood from the left vertebral; so that the blood, in getting from the aorta to the left subclavian, must have passed through the carotids and the circle of Willis. This descending current would meet the opposite one coming through the abnormal canal, and the resistance between the two columns probably caused the triangular dilatation above alluded to. It accounts for the difficulty in the blood's reaching the left brachial artery, and for the cessation of the beating of the pulse and of the diminished temperature of the left arm.—*Hufeland's Journal.*

* Judging from the size of the body and the bones of the cranium, I am disposed to think that the fœtus was between seven and eight months old.

MR. PENRUDDOCK.

WE have great satisfaction in being able to state that this gentleman (who, our readers may remember, was committed for an assault on the Examiners at Apothecaries' Hall) has been discharged. His health had suffered greatly during the latter part of his imprisonment; and we understand that he owes his release mainly to the circumstance of Dr. Seymour, who attended him, having exerted himself actively in his favour.

COLLEGE OF SURGEONS.

LIST OF GENTLEMEN WHO RECEIVED DIPLOMAS IN JULY.

C. G. E. Ford, E. I.—H. A. Bellard, Hull.—N. F. Simmons, Croydon.—E. Welchman, Southampton, Warwick.—J. Jolliffe, Crewkome.—W. M. Rush, Clifton.—J. Hutchinson, Blackfriars' Road.—J. Leigh, Manchester.—J. B. Harrison, Manchester.—H. Smith, Dublin.—F. J. Whipple, R. N.—W. M. Hancox, Wolverhampton.—W. Fortescue, jun., Smithfield Bars.—W. E. Atkins, Kunbridge, Hants.—S. Wood, Shrewsbury.—A. Crisp, Yarmouth.—H. Baller, Bideford.—Bartholomew O'Donovan, Clonakilty.—E. Watson, Southampton.—E. Briant, Kennington.—G. Ford, Ballimore, Leitrim.—J. A. Lush, Berwick St. John, Wilts.—E. Boot, Lincoln.—R. G. Broxholm, Sunbury, Middlesex.—J. Arkwright, Clithero, Lanc.—R. Anwyl Bala, Merionethshire.—F. F. Thompson, Worcester.—J. H. Agar, Tralee, Kerry.—W. Ashcombe, Winchester.—M. O. Sullivan, Listowell, Kerry.—J. Christian, Sligo.—G. Cooper, Lynn, Norfolk.—E. J. Halladay, Warminster.—J. Cooper, London.—Alfred O. Edey, Sydney, N. S. W.—H. Curling, London.—W. A. Plues, Ripon.—R. W. Faithful, Winchester.—M. Shurlock, Guildford.—Loraine Weaver, Liverpool.—T. Wade, Kilcock.—R. W. Rede, Wickham Market.—Henry C. Eddy, Calcutta.—G. F. Naylor, Batley, near Leeds.—T. Blanchard, Sunderland.—W. B. Whitfield, London.—P. Raven, Litcham, Norfolk.—W. Clegg, Hull.—C. O. Coleman, Maidstone.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 3, 1837.

Joseph Lowdell, of East Grinstead.—Charles Housley.—John Bayley Tailor, of Woodbridge.—Henry James Cuddon, of Bungay.—Henry Ryland, of Manchester.—Charles Sprague, of Clevedon, Somersetshire.—John Wilkinson, of Hull.—Charles Toogood Downing.—John Hathway Banks, of Manchester.—William Ruddock, of York.—George Lowe, of Burton on Trent.—William Chambers Evans, of Exeter.—Henry Coles.

DR. MACARTNEY.

WE regret to find that this highly-accomplished Professor has resigned his Chair in the University of Dublin. From the correspondence which was published in the GAZETTE last year, we apprehend that this step has arisen from some differences of opinion between him and his colleagues.

REGISTRATION OF DEATHS.

THE following number of deaths have occurred in July in the Farringdon district, in which is comprised a population of 18,000, and have been registered in accordance with the Registration Act, which came into operation on the first of July last:—

Convulsions.....	2
Old age and affection of kidneys	1
Inflammation of the bowels	2
Fractured thigh	1
Consumption	6
Croup	1
Inflammation of the lungs	3
Dentition	2
Water in the head	3
Inflammation of the brain	1
Hooping cough	7
Small-pox	3
Measles.....	5
Inflammation of bronchi and lungs} consequent on measles	4
Spinal disease and dropsy.....	1
Measles and diseased mesentery	1
Still-born.....	3
Brain fever	2
Hanging	1

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S. WRAY, Registrar.

9, Salisbury-Square.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Aug. 1, 1837.

Age and Debility .	25	Hydrophobia .	1
Apoplexy .	3	Inflammation .	15
Asthma .	6	Bowels & Stomach	2
Cancer .	3	Brain .	7
Consumption .	48	Lungs and Pleura	8
Constipation of the Bowels .	1	Insanity .	1
Convulsions .	40	Liver, diseased .	3
Croup .	1	Measles .	15
Dentition or Teething	2	Mortification .	4
Diarrhœa .	1	Small-pox .	5
Dropsy .	14	Sore Throat and	
Dropsy in the Brain	11	Quinsey .	2
Dropsy in the Chest	1	Spasms .	1
Fever .	15	Stone & Gravel .	1
Fever, Typhus .	1	Thrush .	1
Gout .	2	Tumor .	2
Hæmorrhage .	1	Unknown Causes	81
Heart, diseased .	2	Casualties .	5
Hooping Cough .	7		

Decrease of Burials, as compared with } the preceding week . . . } 12

NOTICE.

Mr. Smyth's paper on "Auscultation of the Head" has been received.

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THE LONDON MEDICAL GAZETTE,

BEING A

WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, AUGUST 12, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXIX.

Balsam of Copaiva—continued.

Physiological effects.—Taken in moderate doses, copaiva creates a sensation of warmth in the stomach, gives rise to eructations having the odour of the balsam, and not unfrequently occasions nausea, or even actual vomiting. The continued use of it often impairs the appetite, and disorders the digestive functions. These may be regarded as the local effects on the stomach. The constitutional effects, or those which result from the absorption of the balsam, or of its active constituent, the oil, are those of a stimulant whose influence is principally directed to the secreting organs, more especially to the mucous membranes and to the urino-genital apparatus. The urine is increased in quantity and altered in quality: thus its colour is heightened, its odour becomes balsamic, and its taste bitter. Moreover, it unfrequently is turbid, as if containing mucus. The influence of copaiva over the mucous membrane lining the urethra, is shown even in the healthy state, by the warmth and tickling sometimes experienced in this part, both before and after evacuating the urine, as observed by König (one of Wibmer's pupils) in his experiments with this medicine; and also

by the marked influence which the balsam has in mucous discharges from this membrane—an influence familiar to every tyro in medicine. Furthermore, it is said occasionally to have produced unpleasant irritation of the testicles, though I have never observed this. It also acts as a stimulant, but in a less marked manner, to other mucous membranes, namely, the bronchial and gastro-intestinal membranes. The greater influence of copaiva over the urethral than over other mucous membranes is by some explained thus:—besides the influence which this receives in common with the other membranes of the same class, by the general circulation, it is exposed to the local action of copaiva contained in the urine as this fluid is expelled from the bladder. If this hypothesis were correct, the influence of copaiva over the mucous lining of the bladder would be greater than that over the urethral membrane. Not unfrequently it gives rise to an exanthematous eruption, usually of a scarlet colour, referrible to either urticaria or erythema, though some describe it as being miliary. Vesicular eruptions are also spoken of, but I have never seen them.

Large doses of copaiva irritate the gastro-intestinal canal, and occasion a sensation of heat at the pit of the stomach, nausea, vomiting, loss of appetite, and purging, with, not unfrequently, griping pains of the bowels. The whole system becomes powerfully stimulated, the pulse is fuller and more frequent, the skin hotter, and thirst and headache produced. Occasionally, hæmaturia and dangerous ischuria are brought on. "I saw," says Kraus, "a very dangerous case, of thirty-six hours standing, almost instantaneously relieved by the application of a warm poultice (made of four ounces of the hyoscyamus plant) over the genital organs." The same author also says, that the repeated use of large doses occasions, "in young marriage-

able subjects, a measles-like eruption over the whole body, which I have many times seen treated by pretended great diagnosticians (*Diagnostikern*) as true measles."

When we compare the operation of copaiva with that of other agents possessing powers of a somewhat similar kind, we observe that both in local and constitutional effects it is more powerful than the balsams properly so called (that is, the native oleo-resins which contain benzoic acid), while its operation on the urino-genital organs is much more marked. It forms an intermediate substance between the balsams and the turpentine, being less powerful but more aromatic than the latter: yet, observes Ribes, the turpentine is less successful in gonorrhœa. The same author considers it to be less powerful than balsam of Mecca, but more so than balsam of Canada.

Uses. — The principal employment of copaiva is in *mucous discharges from the urino-genital organs*, more especially in gonorrhœa. There are two methods of treating this disease by copaiva: one is, not to exhibit the balsam until the inflammatory symptoms have subsided,—the other is to give it at the very outset, in order to cut short or suppress the disease.

The first method is that followed by the best English and German surgeons. It consists in employing, during the violence of the inflammatory stage, antiphlogistic and soothing measures; and when the inflammation has quite or nearly subsided, or is of a very mild character, giving copaiva with the view of diminishing or stopping the discharge. This is the plan recommended by Hunter; and you will find the same principles laid down in the published lectures of Sir Astley Cooper, the late Mr. Abernethy, and Mr. Lawrence. It is undoubtedly the safest method of treatment; for although copaiva may sometimes, or even frequently, be exhibited during the acute or inflammatory stage of gonorrhœa, not only with impunity, but even with advantage, there is no denying the fact that it has, occasionally at least, exasperated the symptoms. This, indeed, is admitted by Ansiaux, one of the principal supporters of the other plan of treatment. Many practitioners judge of the propriety of exhibiting the balsam by the quality of the discharge only, and refrain from administering this medicine until the discharge has acquired what is called a gleet character. I believe most prudent surgeons consider the existence of much pain or scalding in passing the water, an irritable condition of bladder, or violent chordee, as contra-indicating the use of copaiva; while the absence of these symptoms may be regarded as permitting or indicating it.

The second method of treating gonorrhœa by copaiva consists in exhibiting this medicine in very large doses at the very commencement of the disease, that is, in its acute stage, usually without adopting any preliminary antiphlogistic or soothing measures. The practice is not new, since Jacquin, in 1787, speaks of the employment of the balsam of copaiva in injections, and of an infusion of copaiva leaves internally, in acute gonorrhœa, by the Americans. In Europe, however, it has been recommended or adopted to any extent, only since the commencement of the present century, and principally by the recommendations of Ansiaux, Ribes, and Delpech.

Ansiaux candidly admits that in some cases the practice has been injurious; in one instance he saw it produce acute pain, irritable bladder, and discharge of blood by the urethra. The second of these writers, Ribes, seems to regard copaiva as a specific for gonorrhœa and all its consequences, including swelled testicle, dysury, ischury, cystitis, nephritis, &c. ! Delpech speaks of its use in a much more guarded manner; he employs leeches and the usual antiphlogistic measures, when the inflammatory symptoms are very severe; but when the inflammation is not excessive, he commences at once with the balsam. In fact, his practice approximates very much with that usually followed in this country and Germany. The partisans of this second method of treating gonorrhœa say that both copaiva and cubebs cure more easily and promptly, and with less chance of relapse, the sooner they are exhibited after the commencement of the disease; in other words, old claps are less readily cured by them than recent ones.

It has been stated by Delpech and Ricord, and I believe the experience of most practitioners bears out their statement, that copaiva is less successful in the gonorrhœa of females than in that of males. Trousseau and Pidoux have endeavoured to account for this by saying, that, in the female, gonorrhœa is not confined to the mucous lining of the urethra, but extends to that of the vagina, while the influence of copaiva is principally on the urethra.

How does copaiva cure gonorrhœa? Cullen explained the influence of turpentine and copaiva in gleet, by supposing that they induce some degree of inflammation of the urethra, and that when this goes off, the action of vessels which constitutes the gleet does not return. I am not acquainted with any better explanation than this, unsatisfactory though it be.

Chronic inflammation of the bladder, the *Cystirrhœa*, or *Catarrhus vesicæ*, of some writers, has also at times been beneficially treated by copaiva. Delpech relates a

case of *acute vesical catarrh* cured by it. But *catarrhus vesicæ*, as usually met with in this country, is for the most part accompanied by considerable irritation, and is, in general, made worse by stimulants like *copaiva*.

Balsam of *copaiva* has also been employed with advantage in *leucorrhœa*. Favourable reports of its use have been published by Cattet and Lacombe, by the late Dr. Armstrong, the celebrated Baron Larrey, &c.

In *chronic pulmonary catarrh* this balsam has been employed with advantage. We must bear in mind that its influence over the bronchial mucous membrane, as well as over the general system, is of a stimulant nature, and, therefore, that active inflammation, or a febrile condition of body, contra-indicates its use.

It has likewise been used in *chronic inflammation of the mucous membrane of the bowels*, especially of the colon and rectum.

Dr. Cullen says, "I have learned from an empirical practitioner, that it gives relief in *hæmorrhoidal affections*; and I have frequently employed it with success. For this purpose, it is to be given from twenty to forty drops, properly mixed with powdered sugar, once or twice a day."

Modes of administering balsam of copaiva.—The balsam is sometimes exhibited in doses of twenty or thirty drops on sugar; and it has been said that this is the most efficacious method of giving it when we want to affect the urinary organs; but the objection to it is the nauseous taste of the medicine. Some take it swimming on half a wine-glassful of water, to which a few drops of some bitter tincture have been added.

Many persons employ *copaiva* in the form of *emulsion*, made with mucilage, yelk of egg, or alkalies. If mucilage be used, we must not make it too thick, otherwise it does not mix well with the balsam. To hide the unpleasant flavour, spirit of nitric æther is commonly added. Opium is sometimes conjoined to counteract purging; acids (especially the sulphuric), to check nausea.

Velpeau proposed the administration of balsam of *copaiva* against *gonorrhœa* in the form of *lavement*. Here is a formula for exhibiting it in this way:—Take of balsam of *copaiva* two drachms, the yelk of one egg, and distilled water eight ounces: make an emulsion, then add tincture of opium 20 or 30 drops. The quantity of balsam employed may be gradually increased to 6 or 8 drachms. By this mode of exhibition, the nausea and vomiting, which are so frequently complained of when the balsam is taken by the mouth, are entirely obviated. I must refer you to Velpeau's work, "*Recherches*

sur l'emploi du Baume de Copahu, administré en lavement contre la blennorrhagie," for further information. I may just add, that he asserts this method of administration almost always diminishes *blennorrhagic discharges* both in males and females, and in many it completely stops them. He has also found it beneficial in non-venereal puriform discharges from other mucous membranes. In conclusion, he says that the balsam may be used in the form of *lavement* in all the cases in which it has been administered by the mouth.

Pills of Copaiva.—Starch, gum, magnesia, rhubarb, and various other substances, have been employed to give a pilular consistence to balsam of *copaiva*. Calcinced magnesia, proposed in 1828 by Mialhe, is by far the best for the purpose; and his formula for making *copaiva pills*, of which the following is a copy, has been introduced into several continental *Pharmacopœias*, as well as into that of the *United States*.

Mialhe's Copaiva Pills.

Take two ounces of balsam of *copaiva*, and one drachm of recently prepared calcined magnesia. Mix them, and set the mass aside until it acquires a pilular consistence, which it usually does in the course of six or eight hours, though sometimes fifteen or twenty are required. Then divide into 200 pills.

The theory of the solidification of the mass is this: the acid resin of *copaiva* (*copaivic acid*) unites with the magnesia, and forms *copaivate of magnesia*. The oil of *copaiva* is merely absorbed by, not chemically combined with, the magnesia.

It appears, however, that the quantity of magnesia required for this change is not the same for all varieties of *copaiva*: moreover, the time occupied in effecting the solidification is not constant. Faure has shewn that a little (say a drachm for the formula just given) of Bordeaux turpentine (the produce of *Pinus maritima*), very much promotes this process; but it appears from the observations of MM. Guibourt, Lecanu, and Blondeau, that Strasburgh turpentine (procured from *Abies pectinata*) is not equally effective.

Gelatine Capsules of Copaiva.—The French have recently proposed another method of exhibiting *copaiva*,—namely, enveloping this balsam in a thin gelatinous capsule: and we now find boxes of Mothe's "*Gelatine Capsules of pure Copahu balm*" in many of the druggists' shops of London. These boxes are of an oblong shape, and contain three dozen olive-shaped or ovate capsules, each holding the $\frac{1}{36}$ th part of an ounce of the balsam. When swallowed, the gelatinous capsule readily dissolves in the liquids of the gastro-intestinal canal, and

allows the balsam to escape. The object of exhibiting copaiva in this form is to avoid the nauseous taste and odour; but all the capules I have examined smelled strongly of the balsam. Ratier has proposed to grease and introduce them into the rectum.

Essential Oil of Copaiva.—I much prefer the essential oil of copaiva to every other preparation. The usual dose to commence with is ten or twenty drops, but I have known it increased to two drachms. I have usually ordered it to be taken on a lump of sugar.

Resin of Copaiva.—Though the resin of copaiva was praised up a few years since, as a substitute for the balsam, it is, in fact, nearly inert.

VIOLACEÆ.

There are two genera in this family to be noticed, namely, *Viola* and *Ionidium*.

Viola odorata.

Sweet violet is a well-known indigenous plant, belonging to class *Pentandria*, order *Monogynia*, in the Linnean arrangement. It is cultivated on account of the beauty, odour, colouring matter, and supposed medicinal qualities of the flowers. The root has sometimes been used in medicine.

Chemistry.—In 1822 Pagenstecher examined the infusion of violets, and found therein the following substances:—

- Odorous principle.
- Colouring matter.
- Sugar (crystallizable & uncrystallizable.)
- Gum.
- Vegetable albumen.
- Salts of potash and lime.

Boullay has found in the roots, leaves, flowers, and seeds, an alkaline substance called *violine*.

The *odorous principle* has not yet been obtained in the separate state. It is supposed, however, to be of the nature of volatile oil. By digesting violet flowers in olive oil, the latter dissolves the odorous matter, and acquires the smell of violets; this preparation is the *oil of violets*,—the *huile de violette* of perfumers. The *eau*, or *esprit de violette*, is nothing more than an alcoholic tincture of the rhizome of the Florentine orris, which has an odour similar to that of the violet.

The *blue colouring matter* of violets is soluble in water, but not in alcohol. It is changed to red by the strong acids, and to green by the alkalies: hence, the expressed juice and syrup are valuable as tests for discovering the existence of either acids or alkalies. An infusion of violets has been said to contain three kinds of colouring matter; namely, a *blue colouring*

matter, not precipitable by the acetate of lead, but which is completely decolorized by sulphuretted hydrogen; secondly, a *bright-red acid colouring matter*, which causes a bluish-green precipitate with the solution of acetate of lead; thirdly, a *violet-red colouring matter* which does not precipitate the neutral acetate of lead, but throws down a greenish yellow precipitate with the subacetate of lead.

Violine is an alkaline substance, agreeing very closely in its mode of preparation, as well as in its physical, chemical, and medicinal properties, with *emetia*.

Effects.—The emanations of violets, like those of other flowers, are said to be dangerous. Triller mentions a case in which they caused apoplexy. Taken internally, in doses of one to two drachms, the flowers act as laxatives. The seeds possess similar properties. The root, in doses of from half a drachm to a drachm, is emetic and purgative.

Uses.—The flowers are used in medicine merely in the preparation of the *syrup*, which is employed as a laxative for children. Thus, a mixture of equal parts of oil of almonds and syrup of violets, is administered in doses of one or two teaspoonfuls to new-born infants, as a mild purgative. The root might be employed as a substitute for ipecacuanha.

Ionidium Ipecacuanha.

The roots of various species of *Ionidium* possess emetic properties, and have been employed as substitutes for our official *Ipecacuanha*. The root of *Ionidium Ipecacuanha* is called, by the Brazilians, *Ipecacuanha branca*, or the *white vomitive root*; by Europeans it is termed *false Brazilian Ipecacuanha*. It contains, according to Pelletier, 5 per cent. of a vomitive principle (*violine* or *emetine*?) Its effects and uses are similar to those of our official *Ipecacuanhas*. The bark of the root is given in doses of half a drachm or a drachm, infused in water.

GENTIANACEÆ.

Gentiana lutea.

History.—Gentian is said to owe its name and introduction into medical use to Gentius, king of Illyria, who was vanquished by the Romans about 160 or 169 years before Christ. It is, therefore, not noticed by either Hippocrates or Theophrastus, but is mentioned by Dioscorides (who calls it *Γεντιανή*) and by Pliny, both of whom refer to Gentian.

Botany.—*Gentiana lutea* grows wild on the Alps of Austria and Switzerland, and in great abundance on Mount Jura.

The root is perennial, cylindrical, or spindle-shaped, simple or somewhat

branched, externally brown, internally yellow and fleshy. The stem is simple, erect, two or three feet high, moderately thick, roundish, hollow, and, as well as all other parts of the plant, smooth. The leaves are opposite, ovate or oval, pointed, entire, five to seven-ribbed, and plaited: the lower ones have short sheathing petioles, the upper ones are amplexicaul, and in the neighbourhood of the flowers they become concave, yellowish green bracteæ. The inflorescence is a many-flowered verticillus, which, at the apex of the stem, appears like a capitulum. The flowers are supported by a smooth peduncle of from four to six lines long, and consist of a membranous, pale yellow sheath (calyx) ruptured at the side;—a corolla of from five to seven lanceolate, pointed, yellow segments;—stamina (usually five) as long as the corolla, with erect, arrow-shaped, yellow anthers; a conical ovarium surrounded at the base by five greenish glands, and supporting, on a very short style, two ovate blunt stigmata. The fruit is a superior, conical capsule, divided into two valves, and containing numerous, roundish, compressed, albuminous seeds, with membranous margins.—(Nees.)

In the Linnean arrangement the plant belongs to class *Pentandria*, order *Digynia*.

Collection of the root.—The peasants of Switzerland, the Tyrol, Burgogne, and Auvergne, collect the roots, dry them, and export them to all parts of the world.

Description.—Gentian root (*radix Gentianæ luteæ seu rubræ vel majoris* of the shops) is imported in cylindrical usually more or less branched pieces, varying in length from a few inches to a foot or more, and in thickness from half an inch to one or two inches. These pieces are marked by transverse annular wrinkles and longitudinal furrows. Externally the root is yellowish brown, internally it is brownish yellow; its texture is spongy; its odour, in the fresh state, peculiar and disagreeable; its taste is intensely bitter.

Substitution.—The roots of other species of *Gentiana* are said to be frequently mixed with those of the officinal species; their effects, however, are analogous. Martius says, that the roots of *G. purpurea* have strong longitudinal furrows, and are of a darker brown colour internally, but want the transverse wrinkles. The roots of *G. pannonica* are similar to those of *purpurea*. Both kinds are met with in Bavaria, and serve in Switzerland for the preparation of a spirit. *Gentiana punctata* has roots which are just as bitter, but of a more yellow colour; they are dug up in great abundance in Moravia. The roots of both the last-mentioned species are dug up at and exported from Salzburg: in the fresh state they are white when sliced.

Chemistry.—Several chemists have examined gentian root. Thus, Schrader, in 1815; Guillemin and Jacquemin, in 1819; Braconnot; and Henry and Caventou, in 1823. The constituents, according to the analysis of the last-mentioned gentlemen, are:—

- A bitter crystalline matter (*Gentianin*).
- A fugacious odorous principle (volatile oil?)
- Yellow colouring matter.
- Green fixed oil.
- Gum.
- Incrystallizable sugar.
- Matter identical with bird-lime.
- Free organic acid.
- Ligneous matter.

Gentianin.—This is described as a yellow crystallizable substance, soluble in æther and alcohol, but which, after some time, is deposited from its solutions in the form of yellow acicular crystals: it is described as being slightly soluble in water, but soluble in alkalies, which deepen its colour. It is partially volatilizable by heat, is inodorous, but very bitter. It affects neither litmus nor turmeric. Acids diminish its colour; thus its solutions are almost colourless with sulphuric or phosphoric acid. From the experiments of Magendie it does not appear to possess any poisonous properties; and he has proposed to prepare of it an *alcoholic tincture* (composed of five grains to the ounce), and *syrup* (sixteen grains to the pound), as substitutes for the ordinary preparation of the root.

The *volatile constituent* of gentian possesses some interest, since it appears to possess poisonous properties; at least Planche states that the distilled water of gentian excites nausea, and a kind of intoxication.

The *saccharine* and *mucilaginous* constituents of gentian are interesting, since to them we owe the capability of the infusion of gentian to undergo the vinous fermentation, and to form a spirit much admired by the Swiss.

Physiological effects.—Gentian is very properly regarded as a simple bitter; that is, as being bitter, but without possessing either astringency or much aroma. It therefore has the usual tonic properties of medicines of this class, and which I have so frequently had occasion to notice.

Given in full doses it appears more disposed to relax the bowels than the other simple bitters, and in susceptible individuals it is more apt to disorder the digestive process. It is somewhat less bitter, and therefore, I presume, somewhat less powerful than quassia.

By continued use the sweat and urine acquire a bitter taste, and a peculiar odour—

a sufficient proof that gentian, or its bitter principle, becomes absorbed.

As some of the vegetable bitter tonics (for example, quassia and calumba) have been found to exert a specific influence over the cerebro-spinal system, and to yield preparations of a poisonous quality, we are naturally led to inquire whether any analogous facts have been made out with respect to gentian. The reply is in the affirmative. Magendie, indeed, discovered no poisonous operation in *Gentianin*; he threw several grains of this principle into the veins of an animal, without any obvious effect; and swallowed two grains dissolved in alcohol, but only observed extreme bitterness, and a slight feeling of heat in the stomach. Moreover, Hartl inserted two grains of the extract of gentian in the inner side of the thigh of a rabbit, without any ill effects resulting: the wound was slightly inflamed, though it soon healed. But if the narcotic principle of gentian be of a volatile nature, these experiments of Magendie and Hartl go for nothing, since in the preparation of both the extract and *Gentianin*, the narcotic principle would be dissipated by the heat employed. Now Planche has shewn, as I have already mentioned, that the distilled water of gentian causes violent nausea, and, within three minutes, a kind of intoxication. Moreover, Buchner tells us that some years ago a narcotic effect was produced in Prussia by the medicinal use of gentian root, although the presence of any foreign matter could not be detected. In the *Philosophical Transactions* for the year 1748, are mentioned some deleterious effects resulting from the use of gentian, but they were referred to a foreign root said to have been intermixed, and which greatly resembled the true gentian root.

Uses.—Gentian is adapted to most of the cases requiring the use of the vegetable tonics. It agrees best with phlegmatic individuals, and is apt to disagree with irritable or susceptible persons. It is employed principally in the following cases:—

1. In *dyspepsia*, and other gastric disorders attended with debility, and unaccompanied by any marks of inflammation or irritation of the digestive organs.

2. In *intermittent diseases* it may be used where cinchona is admissible, but it is much inferior to the last-mentioned substance. "Joined with galls or tormentil in equal parts, and given in sufficient quantity, it has not failed," says Dr. Cullen, "in any intermittents in which I have tried it."

3. In many other diseases marked by weakness and debility, but attended by fever, or gastro-intestinal irritation, gen-

tian is admissible and useful. For example, some forms of gout, hysteria, uterine disorders, &c.

4. *Against worms* it has been used as if it possessed some specific influence.

Administration.—In *powder* it may be given in doses of from ten grains to half a drachm. The most eligible mode of exhibiting, however, is in the form of *infusion*, a formula for which is in all the British Pharmacopœias; the dose is one or two fluid ounces. The *compound gentian mixture* is a compound of the infusions of gentian and senna, with tincture of cardamoms; it is a useful tonic purgative in dyspeptic cases.

The *tincture* (formerly called the *bitter tincture*, or *Stoughton's Elixir*), is administered in doses of one or two drachms, usually in combination with the infusion. The *extract* is given in the form of pills, to the extent of from ten or twenty grains at a dose.

Frasera Walteri.

The root of this plant has been sold under the name of the *American* or *False Calumba*, as I have before mentioned (*Med. Gaz.* vol. xix. p. 772). It is officinal in the Pharmacopœia of the United States. Its effects, uses, and doses, are analogous to those of the gentian. The fresh root is said to be emetic and cathartic.

Swertia Chirayita (Hamilton).

Professor Guibourt has endeavoured to prove that this plant (called by Roxburgh *Gentiana cherayta*), is the *Κάλαμος ἀρωματικός* of the Greeks. Various reasons, however, compel me to differ from M. Guibourt in this opinion. One of the most striking arguments against his view is the absence of odour in the *Chirayita* plant. [For further information consult *Journal de Chim. Méd.*, tom. i.; also *Fee's Cours d'Histoire Naturelle*, and Dr. Royle's *Illustrations of the Natural History of the Himalaya Mountains*.]

The *Chirayita* is an herbaceous plant growing in Nepal and other parts of India. It has round, smooth, jointed stems; amplexicaul, lanceolate, acute, entire, smooth, three or five-veined leaves, and yellow terminal flowers. In the Linnean arrangement it belongs to class *Pentandria*, order *Digynia*.

The plant is pulled up by the root about the time the flowers begin to decay, and when the capsules are well formed. It is imported into this country tied up in bundles.

Lassaigne and Boissel have analysed it, and obtained the following substances:—

Resin.

Yellow bitter matter.

Brownish-yellow colouring matter.

Gum.

Malic acid.

Chloruret of potassium, sulphate of potash, and phosphate of lime.

Oxide of iron.

It is an intensely bitter substance, possessing the tonic properties of gentian.

In India it is employed as a stomachic in dyspeptic complaints, and as a febrifuge in intermittents. According to Dr. Roxburgh it is prescribed as a substitute for cinchona, when this bark cannot be procured.

It may be given in *substance*, in doses of a scruple,—or in the form of *infusion*, *decoction*, or *tincture*, which may be prepared like the corresponding preparations of gentian, and may be administered in the same doses.

Erythraea Centaurium.

This plant was known to the ancients, and received one of its names (*Chironia Centaurium*) from Chiron the Centaur, who is said to have lived 1270 years before Christ. But it is not the plant which Pliny says cured Chiron of a wound received by an arrow which he dropped on his foot when examining the arms of Hercules.

It is a little indigenous, herbaceous, annual plant, with opposite, sessile, ovate-lanceolate leaves and red flowers. It belongs to class *Pentandria*, order *Monogynia*, in the Linnean arrangement. Martius tells us that 100 pounds of the fresh herb, flowers, and stalks, yield only 47 pounds when dried. The writer also says, that from 10 pounds may be obtained, by one decoction, 3 pounds of extract.

The principal constituent is a bitter extractive matter, probably analogous to, or identical with, *Gentianin*, though Dulong speaks of a substance which he terms *Centaurin*, and which, when combined with hydrochloric acid, is an excellent febrifuge.

The effects, uses, doses, and modes of administration, are analogous to those of gentian. Though still retained in the Pharmacopœia, it is rarely employed, I believe, by medical practitioners.

Menyanthes trifoliata.

This plant is mentioned by Cordus, Gerarde, and some other old writers.

It is an indigenous perennial, growing in watery meadows, ditches, &c., and frequently cultivated in ornamental aquaria, on account of the beauty of its flowers. Its leaves are ternate, the leaflets being obovate and equal. The flowers, which form simple racemes, are flesh-coloured, and have the disk of the corolla densely shaggy. In the Linnean arrangement the plant belongs to class *Pentandria*, order *Monogynia*.

The whole herb (*herba Trifolii fibrini*) is officinal. It is odourless, but has a permanent bitter taste. The most important constituent is a *bitter extractive matter*, which contains some tannic acid, since it forms a green colour with the salts of iron.

It is a tonic and astringent, and in large doses is cathartic, and frequently emetic. It is now scarcely employed.

LECTURE

ON THE

AUSCULTATION OF THE CHEST.

BY M. LOUIS.

[From the *Presse Médicale*.]

MANY of you, gentlemen, have wished me to dedicate one of these conferences to the study of the auscultation of the chest. Although the facts which I shall have to set before you will be far from being all new; although a considerable part of them have been most accurately described by one of the great medical luminaries of our era, the celebrated author of the "Treatise on Auscultation;" and although you have already seen them singly in the cases which I have from time to time shown you in this clinical course, I still think that it will not be useless to combine these scattered elements, and to rise into those general reflections which are the natural consequences of their union. I yield the more readily to your wishes, because no one is more impressed than myself with the importance of auscultation, as a means of diagnosis in the diseases in which it can be employed, and because I am convinced that we cannot be too zealous in making a knowledge of it familiar, even by repeating what has been said often and often before. I shall merely give a summary view of the facts which have become, so to say, common-place in this science, and I shall insist more upon those, which though less known, are not less important, for they are the results of accurate observation in a very considerable number of individual cases.

Auscultation is the exploration of the sounds which are produced in different parts of the body, whether healthy or diseased. As I wish to confine myself to one lecture, I shall speak only of the auscultation of the respiratory organs; and, as a preliminary, I will mention the precautions which must be taken in order that auscultation may be practised with accuracy, and that inferences may be drawn from its results without risk of error.

The person to be examined should lie on his back, or sit, according as we wish

to auscult the anterior or the posterior part of the chest; he must lean neither to the right nor the left; his shoulders must be in the same plane, and his symmetrical muscles in the same state of relaxation or tension as the position of the patient.

The contraction, tension, and relaxation of the muscles, have a marked influence on the results of auscultation, and when the corresponding points of the thorax are examined in comparison with each other, as we must always do if we want to draw rigorous inferences, we might imagine differences that did not exist, merely from the bad attitude of the patient.

The auscultator, too, must select a convenient position, as Laennec recommends, and take care that the respiratory sounds are not intercepted by thick clothes, and particularly that the patient does not retain any which might produce a fallacious sound, as, for instance, silk coverings. He must also find out which is his best ear, as experience shows that almost every observer has one ear finer than the other. All these precautions, which at first sight may seem over-punctilious, are absolutely necessary to prevent our falling into gross errors.

In opposition to Laennec, it is now allowed that the naked ear perceives sounds as well as when aided by the stethoscope; and, indeed, it often happens that it distinguishes shades of sound which had escaped it when assisted by this instrument. The cases in which we ought to prefer mediate auscultation are very rare, and it is often necessary to have recourse to immediate auscultation to determine with clearness what would otherwise be obscure.

The patient and the observer being properly placed, auscultation, to be successfully practised, requires another condition, namely, the ear, if unaided, is to be exactly applied to the chest; if the stethoscope is used, the whole of its circumference is to be applied to the parietes of the thorax, so that if the patient is so wasted that the intercostal spaces leave a cavity under the stethoscope, it must be filled up by compresses placed upon the thorax.

All these preliminaries being observed, auscultation requires nothing but a certain degree of attention; and as it is impossible to know what is pathological, without first knowing what is normal, I will briefly state the sounds which belong to the healthy state.

§ I.—HEALTHY STATE.

Normal respiration.—In a healthy person, we hear during inspiration a soft and gentle murmur, which is especially distinct towards the anterior and lateral parts, as well as in the lower two-thirds of the

posterior part of the thorax. The respiration approaches the bellows' sound in the space between the vertebral edge of the scapula, and the dorsal spine, at the level of the origin of the bronchi; and this blowing respiration, which exists also, though in a less degree, towards the sub-spinal fossæ, is more marked on the right than on the left; a circumstance worth remarking, as, if one was not forewarned of it, one might mistake the healthy for a diseased state. This difference is accounted for by the calibre of the bronchi, which is greater on the right than the left side, as appears from the researches of Dr. Gerhard, of Philadelphia.

These phenomena take place during inspiration only; for, at the moment that expiration begins, the respiratory murmur ceases to be heard, or nearly so, excepting in the upper and posterior third, where a sound similar to that of inspiration, at the same points, but weaker, may still be heard. These sounds vary in force according to age, *embonpoint*, and the strength of respiration; but in these different circumstances their essential characters are not sensibly changed.

Resonance of the voice.—If a healthy man speaks while we are examining his chest by auscultation, we perceive a resonance, a sort of general tremor, which is at its maximum behind, and at the junction of the middle and the upper third of the chest; that is to say, at the same point where the slight blowing respiration is heard. These two effects are owing to the same cause, and this slight bronchophony is rather stronger at the right than at the left apex, for the reason stated above; so that when this difference is inconsiderable, and not accompanied by any remarkable modification of respiration, we cannot infer from it the existence of any morbid state.

§ II.—PATHOLOGICAL STATE.

The alterations produced by disease in the different sounds which I have just described, are numerous and varied. Let us examine them with care, and let us see what is the degree of their importance relatively to diagnosis, and whether, if properly studied alone, these alterations are capable of distinguishing the different diseases of the chest from one another. Let us first study the alterations of the respiratory sound, independently of the rhonchi (*râles*) which are combined with them.

1. *Modification of the respiratory sound.*—The most simple of these modifications is obviously the weakening of the respiratory murmur; it is found in the emphysema arising from dilatation of the pulmonary vesicles. This weakening, which is generally proportioned to the duration of the

disease, is at its maximum anteriorly, where the emphysema is usually the greatest; it is also permanent. If it is general, and not considerable, we may be uncertain as to its real cause, for the strength of the respiratory murmur varies in a state of health: but if the diminution is limited in extent, and constantly observed; if it is on one side of the thorax only, or if it differs in degree at corresponding points, it is obviously pathological, and very probably depends on a greater or less dilatation of the pulmonary vesicles. It is true that the diminution of the respiratory sound takes place in other diseases, in pleurisy, in phthisis, and in pulmonary catarrh; but then it is developed in particular conditions which allow us to recognize its real cause, or at least strongly suspect it.

In pleurisy, indeed, when the effusion is not very considerable, we can hear the respiratory murmur through the effusion, but much less clearly than in the healthy state, or than at the corresponding point of the other side; and then, moreover, this diminished respiratory sound is deeply situated, and has the softness of the normal state. It is particularly below and behind that it is found, while in emphysema the maximum of diminution of the respiratory sound takes place anteriorly. This latter sound, too, is superficial; it becomes dry, and loses its regular softness. Although in phthisis the diminution of the respiratory murmur is generally found at the beginning of the disease, it is at the apex of the chest where the development of tubercles begins. When this diminution takes place in pulmonary catarrh, it is not permanent; and as it depends on the obstruction of the bronchi by mucus, it is merely requisite to make the patient cough, to remove the obstacle which hindered the free passage of the air, and thus restore the natural intensity of the respiratory murmur.

Hence the diminution of the respiratory sound, when properly studied, can lead us, independently of a rhonchus, of percussion, or of the inspection of the thorax, to a diagnosis of several affections of the lungs; and if this diagnosis is not absolutely infallible, at any rate it is such as to establish the strongest presumption in favour of the existence of such or such an affection. To sum up, the diminution of the respiratory murmur derives all its value from its situation, its permanence, its degree of distance from the ear, or nearness to it, its dryness or softness. Thus:—

First, in emphysema this diminution continues in the same point, is usually at its maximum anteriorly, and is accompa-

nied by a certain roughness, which does not exist in the healthy state.

Secondly, in pleurisy it occurs at the inferior and posterior part; the respiratory sound is deeply situated, and preserves its softness.

Thirdly, in phthisis the diminution takes place at the apex.

Fourthly, in pulmonary catarrh its situation is variable, and its duration momentary.

A similar circumstance occurs in these various affections: in the first three a certain number of pulmonary vesicles no longer admit the air, in consequence of the compression which they suffer; in the last, in consequence of the presence of mucus in the bronchi.

2. *Absence of the respiratory sound.*—The respiratory sound may be completely wanting, and this over a variable space. This occurs when a tumor compresses the great bronchi, as in some cases of aneurism; or when there is a slight effusion of air or water, as in pneumo-thorax, or many cases of pleurisy.

In the last two cases, auscultation, independently of other means of examination, cannot fix the diagnosis of the disease which suppresses respiration. It is not so in the first, if the respiratory sound is wanting only in the surface of the lung, as effusions of air and water are not limited to this part of the pleura.

Having considered the diminution and absence of the respiratory sound, let us examine its morbid changes.

3. *Alteration of the respiratory sound.*—
a. The most remarkable for its strength is amphoric resonance, or amphoric respiration, which arises from the air entering a large cavity through a narrow opening. When it exists, we are certain to find either a considerable excavation in the substance of the lungs, consequent on the breaking down of tuberculous matter (and then its seat is always at the apex of the lung), or a cavity arising either from a defined gangrene, or from a large bronchial dilatation, in which case its seat is variable. Thus it is the place alone where amphoric respiration is found which could serve to fix the diagnosis, if we did not know the other symptoms and the progress of the disease; for in all these cases the modification of the respiratory sound is precisely the same. But the laws of pathology are so unchangeable, that even if we had nothing to assist us but knowing the seat of the lesion, the diagnosis would be almost certain.

b. When less considerable, the alteration we have been treating of is called bronchial respiration; it is a sound like that which is heard when the ear is ap-

plied to the trachea. Bronchial respiration occurs whenever the air passes through the bronchial tubes without reaching the pulmonary cells. In those cases where the substance of the lung is disorganized, and approximates to a completely solid tissue, it is—

First—One of the most certain signs of the red and grey hepatization of the lungs, being the alterations which constitute the second and third stage of pneumonia; they occur almost always posteriorly, and more frequently at the base than the apex.

Secondly—It also occurs in pleurisy, when it is less distinct, and somewhat smothered; it is then sometimes capable of being displaced by the effusion,—a phenomenon which does not take place in any other affection.

Thirdly—In the dilatation of the bronchi, it is remarkable for constantly remaining in the spot opposite to the lesion, whatever may be its seat.

Fourthly—Tubercles, when they have arrived at a certain stage, are manifested by bronchial respiration under the clavicle, and in the supra-spinal and sub-spinal fossæ. We must beware, however, of confounding natural and bronchial respiration, as they have some resemblance; it requires a practised ear not to be deceived in a host of cases where the characteristic of which we are speaking is not prominent, and is consequently doubtful. It is by alternately and carefully examining the corresponding points of both sides, that we shall succeed in discriminating the difference, not forgetting that there is a slight difference in the healthy state, respiration being always stronger and more dry on the right side, and consequently approximating a little more to the bronchial *souffle*. This excess of sound appears still greater when the two sides are compared; so that the physician who was not aware of this would obviously be liable to serious mistakes.

In all the affections in which bronchial respiration is met with, there is a great likeness in the organic lesion. The substance of the lungs is condensed by inflammation in pneumonia, by compression in pleurisy; it is more or less indurated around dilated bronchi; when there are tubercles, the pulmonary vesicles are replaced by the new formation.

c. A prolonged and blowing expiration is a change in the respiratory sound allied to bronchial respiration. In order to estimate it at its just value, we must recollect that this part of respiration, which in most persons is performed without any sound, may be accompanied by a slight murmur without any disease, pro-

vided that it is equal in the corresponding spots of both sides. At the same time that the expiration is prolonged, the inspiration loses its softness and marrowiness, becoming less strong, but more rough. If these two phenomena are observed under the clavicles, they are sufficient of themselves to make us admit the presence of tubercles; and this characteristic sign is the more valuable, as it is generally met with before phthisis is far advanced.

d. Between bronchial respiration and amphoric resonance there is an intermediate modification, namely, cavernous respiration, of which the name alone points out the kind of lesion on which it depends.

To produce cavernous respiration, the lung must contain a large excavation, communicating by one or more bronchi with the external air. But excavations of this kind may be produced in four different ways:—

1st, By the breaking down of tubercles. In this case, cavernous respiration is found at the apex of the chest, and its situation is enough to indicate the lesion on which it depends.

2d, When, in the progress of pneumonia, abscesses are formed, (a rare event, however,) it is cavernous respiration which points out their existence as soon as they communicate with the external atmosphere. In such cases the alteration of the respiratory sound is found most frequently at the base of the lungs.

3rd, The excavation may arise from a partial gangrene, of which the matter becomes liquid and is evacuated externally by one or more bronchi in communication with the collection of pus.

4th, It may be the effect of a very large bronchial dilatation. In these last two cases the situation no longer assists the diagnosis, for gangrene and dilatation of the bronchi may appear in very different parts.

To these morbid changes in respiration are allied other phenomena of auscultation produced by the resonance of the voice.

MODIFICATIONS OF THE RESONANCE OF THE VOICE.

a. *Bronchophony*.—The most remarkable of these changes is the one which accompanies bronchial respiration, and is called bronchophony. These two sounds are necessarily associated, and whenever one is heard we are sure to find the other. They are met with:—

First, in the first and second stages of pneumonia. In this case, the bronchophony is constant, continues for a very considerable time, and varies in extent and

intensity, according to the progress of the disease.

Secondly, in dilatation of the bronchi. In this affection it is not always of the same loudness; this arises from the greater or less thickness of the indurated tissue around the dilated tubes.

Thirdly, in tuberculous subjects, bronchophony is heard at the apex, and, posteriorly, in the supra-spinal and sub-spinal fossæ, and under the clavicles. The remark we made on bronchial respiration holds good here: the farther we go, the more we must be convinced that auscultatory signs derive their chief value from the place where they are discovered; for the same sign belongs to several different affections, the seats of which are different also.

Fourthly, in pleurisy, bronchophony manifests itself at the inferior and posterior part of the chest. This would not be sufficient to distinguish it from the bronchophony produced by pneumonia, were it not for another characteristic sign, namely, the possibility of altering the place when the sound is heard, by altering the situation of the effused fluid; but this is not necessary to make the diagnosis certain, when bronchophony undergoes the particular modification which is called ægophony. It may be admitted as a general rule, that ægophony (which is variable in intensity, and often difficult to find) is a pathognomonic sign of pleuritic effusion; and to produce it, the effusion must reach but not overpass certain limits, the extent of which is not known.

This situation inferiorly, and the facility of displacement, though generally signs of pleurisy, do not form a rule without an exception. To convince you of this, it will be sufficient to tell you that Laennec once saw a case of numerous adhesions separating several effusions from each other, which formed so many partial pleurisies. It is evident that in cases like this the effusion may be suspended, so to say, at different heights, and that it cannot be displaced.

Another difficulty now and then occurs. In some patients the pleuritic pain is but slight, and the resonance of the affected side differs but little from that of the opposite one: ægophony is difficult to ascertain, and the only appreciable alteration consists in a slight diminution of the respiratory sound. In such cases is there effusion? If there is, the quantity of fluid must be very small.

Though there is no doubt as to the way in which bronchophony is produced (for there the sound, after reaching the greater bronchi, is transmitted to the ear by a tissue which has become completely solid), it is not the same with ægophony, which

is not easily explained. Laennec attributed it in great measure to a certain degree of flattening, which he supposed the bronchi to sustain from their compression by the fluid. Among the number of the arguments which he has himself given against this theory, he has forgotten one, namely, that when strong and thick adhesions have taken the place of the fluid, this flattening ought to occur and produce ægophony, which is not the case. In short, we must conclude that ægophony has the most striking resemblance to bronchophony, from which it differs only by one peculiarity, viz. *bleating*.

b. When still louder, the resonance of the voice is called pectoriloquy, which resembles the sound that would be produced if the patient spoke directly into the ear of the observer. It is indispensable for its existence that there should be a very considerable cavity communicating with the bronchi. It occurs—

First, in phthisis, when the cavities have acquired a certain size, and are surrounded by an indurated tissue;

Secondly, in gangrene, when the parietes have acquired a sufficiently great density;

Thirdly, in abscess of the lungs;

Fourthly, in dilatation of the bronchi, when it is sufficiently great.

The existence of pectoriloquy being once ascertained, its situation will assist in pointing out, if not with certainty, at least with probability, the kind of lesion on which it depends. If it is at the apex of the lung, there is a strong probability in favour of a tubercular excavation; if it is at the lower part, a dilatation of the bronchi may be suspected. The other two lesions which may give rise to pectoriloquy have no fixed seat.

It may happen that no pectoriloquy can be heard, though the existence of a considerable excavation is certain: this happens when the communication of the cavity with the exterior is cut off by the compression of the corresponding bronchi, or the obstruction of these tubes by substances proceeding from the excavations; in this case auscultation loses the greatest part of its advantages.

THE RHONCHI.

The auscultatory signs which we have successively considered are nothing more than morbid changes of the respiratory sound. Let us now examine another series of phenomena, which are not less important, and which cannot be considered as deviations from the normal state of respiration. This series consists of the rhonchi, which are divided into two kinds, the dry and the moist.

1. *Dry rhonchi*.—These may be reduced

to two chief ones, the sibilous and the sonorous rhonchus.

a. The sibilous rhonchus resembles a slight and prolonged whistle, either grave or acute, dull or clear; it occurs—

First, almost always in emphysema, and sometimes from one extremity of the chest to the other; it is capable of masking the respiratory sound.

Secondly, in pulmonary catarrh it is generally limited in extent, and attacks different points successively, which is not the case in emphysema.

Thirdly, in typhoid affections it occurs in three-fifths of the cases; generally about the eighth day, and over the whole chest.

Some practitioners have considered it, in such cases, a symptom of inflammation of the bronchi; but the readiness with which it changes its place does not allow of this supposition: there is no doubt that it depends on the presence of a small quantity of fluid, which easily changes its place.

b. The sonorous rhonchus is a grave sound, and sometimes extremely loud; at one time resembling snoring, at another the sound of a bass-string, and, very frequently, it is like the cooing of a turtle-dove. It is very commonly found at the commencement of pulmonary catarrh. Laennec supposes it to proceed from the swelling of the bronchial mucous membrane, especially at the prominence produced by the division of the bronchi; but he does not give any case in confirmation of this theory, nor does he tell us how he ascertained the existence of this lesion.

2. *Moist rhonchi.*—These are more frequent than the preceding ones, are of greater importance, and in a great number of cases are sufficient to fix the diagnosis.

Mucous rhonchus.—This has been compared to the sound of air blown through a tolerably dense fluid, such as soap-and-water, or sometimes a thicker liquid.

It is one of the signs—

First, of pulmonary catarrh; it then exists on both sides, and progressively descends.

Secondly, of phthisis, when the tubercles become soft; it then occurs at the apex of the lungs, under the clavicles.

Thirdly, of gangrene.

Fourthly, of dilatation of the bronchi.

Fifthly, of abscess of the lung.

It is generally circumscribed, and confined to one side; when alone, therefore, it cannot form a pathognomonic sign.

The mucous rhonchus has several varieties in relation to the size of its bubbles, which vary from the smallest to the greatest.

The crepitous rhonchus has been accurately

compared to the sound produced by salt thrown on burning coals, or by dry parchment rubbed between the fingers. It exists in one disease only, namely, pneumonia; it is the pathognomonic sign of its first stage, or pulmonary engouement. It is small, equal, clear, and most usually without respiratory murmur. As long as it is not very extensive, it is unaccompanied by bronchial respiration. Is it always met with, as Laennec says? On this point the author of the Treatise on Auscultation contradicts himself; for he says, in one passage, that this rhonchus is only heard at a small distance from the ear; yet afterwards, when speaking of pneumonia, he adds, that an inflamed nucleus in the centre of the lung, were it no bigger than an almond, would be discovered by producing the crepitous rhonchus. It is acknowledged, however, that in such a case the crepitous rhonchus is not heard: this has been proved by MM. Chomel and Andral. One remark to be made upon this rhonchus is, that it is heard over the whole chest of some healthy persons, at the instant of a first forcible inspiration, after which it disappears. In this case is it owing to the presence of a certain quantity of fluid in the pulmonary cells, or rather to the unfolding of their parietes? The latter supposition ought to be adopted, when we consider that this operation is identical with that which occurs in the infant at the moment that the air enters the lungs for the first time.

Can this rhonchus be confounded with the sub-crepitous rhonchus? Undoubtedly not; for the crepitous rhonchus is finer, clearer, more dry, and always uniform. The sub-crepitous rhonchus is coarser and more moist, and the size of its bubbles is very variable. This distinction is of very great importance. Practitioners, from confounding the two rhonchi, have thought that they had to do with a pneumonia when it was only a pulmonary catarrh, and may also have thought that it was their treatment which prevented it from passing from the first to the second stage.

The *sub-crepitous rhonchus* occurs especially:—First, in the pulmonary catarrh, when it is acute and intense; its regular situation is the posterior and inferior part of the chest, on both sides at once; it sometimes extends to the upper part, but always begins below. It varies according to the stage of the catarrh, and but rarely masks the respiratory murmur.

Laennec admits its existence in emphysema, and makes it the chief sign of that disease; but this is a mistake. In emphysema this rhonchus is identical with that of pulmonary catarrh; it occurs in the same points—that is to say, posteriorly, inferiorly, and on both sides; but if it de-

pended on the emphysema, it ought to occur in front, where the emphysema has its seat, which is never the case.

Secondly; Laennec admits of its existence in pulmonary œdema. To allow of this, it would be necessary that the serous fluid in the cellular tissue of the lung should transude through the bronchi; but this is not so.

Thirdly; if the sub-crepitous rhonchus is heard on one side only, posteriorly and inferiorly, it either indicates tubercles, or, more rarely, a dilatation of the bronchi.

This law is without exception; at least for the last four or five years, in five or six hundred simple pulmonary catarrhs which have fallen under our observation, the sub-crepitous rhonchus has always existed on both sides at once.

Fourthly; it is often heard at the upper part of the chest, and is then sufficient of itself, if not to make us affirm positively that there are tubercles, at least to make us strongly suspect it.

You have seen, gentlemen, the application of this rule within these few days, in the case of a patient labouring under chronic peritonitis, and in whom the sub-crepitous rhonchus existed only at the upper part of the chest. This sign confirmed the idea that I had formed of the tubercular nature of the peritonitis.

I should tell you, moreover, that I have never met with a chronic peritonitis that was not tubercular.

Having now gone through the rhonchi, I must explain another auscultatory sign, the *metallic tinkling*, which consists of a clear and silvery sound, exactly like that produced by a pin or a metallic point in a silver cup.

It occurs in two cases:—

First, when there is a large tubercular excavation, and

Secondly, in perforation of the pleura. Hence the necessary condition for its development is the existence of a considerable cavity containing a little fluid, surmounted by a certain quantity of air.

The explanation given by Laennec, who compares it to the sound produced by a drop of fluid falling upon the surface of the effusion, has lately been combated by M. Beau. This physician considers it produced by a bubble of air, which, having traversed the fluid, bursts upon its surface.

M. Beau founds his opinion on the fact of his never having witnessed metallic tinkling when the communication with the external air was above the level of the fluid.

Lastly, I will not finish this lecture without examining with you an auscultatory sign of great importance—the *sound*

of rubbing. It requires great attention to distinguish it from a similar sound arising from the clothes of the patient or the observer.

First, Laennec has pointed out this sound as being a characteristic of interlobular emphysema.

Secondly, it is one of the first signs of pleurisy, but it is difficult to ascertain it, on account of the rapidity with which effusion is produced. It is frequently met with at the end of the disease, when the effusion is completely absorbed and false membranes alone remain.

Thirdly, in some patients who have suffered from pneumonia, and who are nearly cured, a well-marked crepitation can be perceived for a long time; and this, when combined with a certain dulness in the sound, might deceive one, and make one believe in the existence of a continued engorgement of the lung, which it is not easy to suppose. Is it not more probable that this sound is owing to the friction of false membranes incompletely organized? This interpretation is supported by the anatomy of these false membranes, which are often found to have a reticulated appearance. Would not these uneven surfaces produce the continued crackling, by rubbing against one another? It is a difficult question; but this seems to me the probable solution.

CASE OF

CONGENITAL MALFORMATION OF THE URINARY APPARATUS;

With Observations.

BY JOHN THURNAM, M.R.C.S.

I WAS requested by Mr. White, June 29th, to accompany him to the examination of the body of a male child, aged four months.

It appeared that at birth a tumefaction of the lower part of the abdomen had been noticed, especially on the *right* side, and that this swelling had been accompanied by a distinct throbbing. The mother described the swelling as looking like “two or three bladders.” He did not pass any urine until the third day after birth, and not until warm fomentations had been employed; afterwards he passed it freely, and this secretion looked perfectly natural. He, however, appeared to be in constant pain, and was always crying, except when dandled or asleep. His mother occasionally used to rub the ab-

domen, with the view of relieving his pain; and she noticed that whilst doing so the bladder would swell, and rise up under the hand, to the size of a large egg. With the exception of a gradual wasting, the general health of the child would appear to have been pretty good up to a few days of his death, when the mouth became sore and the motions unhealthy in appearance. At this period Mr. White saw him first: he directed the mother to give him a little castor oil, and obtained her promise, in the event of his death, to permit him to examine the body. He died two days after Mr. White's seeing him.

The mother states, that at his birth the right cheek was dropped and lengthened, the left being round and plump, like another child's; but that he gradually improved in this respect. He was also born with a peculiar mark over each of the knee and elbow-joints.

Inspection of the body 48 hours after death.—The body was a good deal emaciated. Very little, if any, difference could be detected in the appearance of the two cheeks. In the skin over the anterior surface of each knee, and posterior surface of each elbow-joint, a peculiar sunken spot existed, which was about three lines in diameter, and paler than the surrounding skin; indeed, they had considerable resemblance to cicatrices, but without any surrounding puckering. Upon cutting into the left elbow-joint, the articulation appeared quite normal. There was also a slight congenital phymosis. The cerebro-spinal axis was not examined.

With the exception of the stomach being remarkably small, there was no deviation from healthy structure either in the thoracic or chylopoietic organs. Upon laying open the abdominal cavity, the urinary bladder was seen of at least treble its proper size, rising up nearly to the umbilicus. United to the upper and left side of the bladder were seen two or three sacs, filled with fluid, the size of eggs, lying in the left iliac and lumbar regions, and having a distinct covering from the peritoneum. The descending colon, as well as the small intestines, were completely pushed over the right side of the abdominal cavity by these sacs. The urinary organs were removed entire from the body, and reserved for careful dissection. I found that the right kidney was in a state of complete atrophy, not retaining more

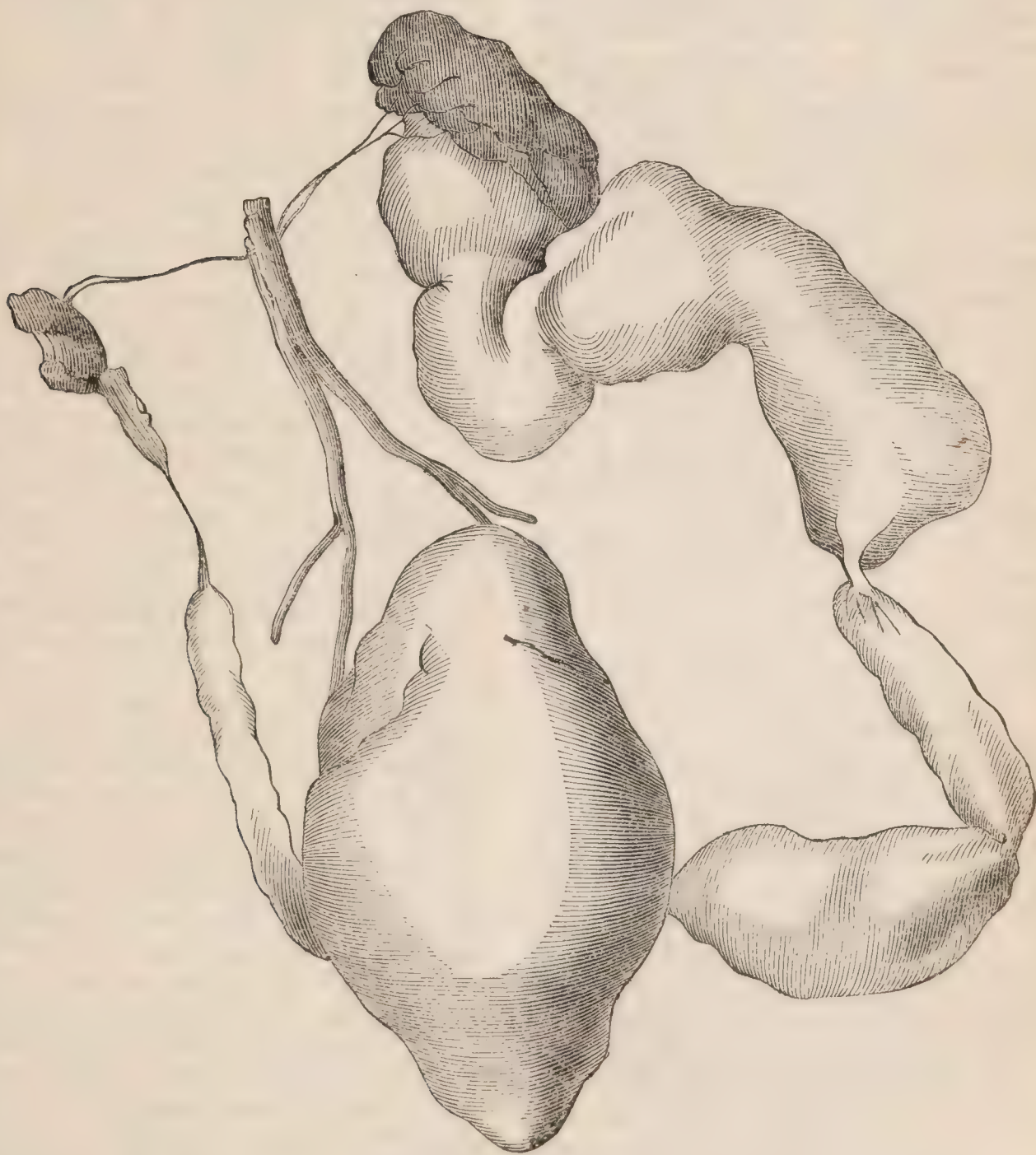
than a fourth of its proper bulk, and its tissue possessing a granular hardness, and exhibiting no trace of division into cortical and tubular structure. I could not meet with any trace of supra-renal capsule on this side. The commencement of an excretory duct was present, in the form of a very small pelvis, which contained a few drops of a dirty mucous fluid; below this the ureter was represented by a thin impervious cord for about an inch, but the lower part of the ureter, for the length of two or three inches, was pervious, and of much greater calibre than usual, admitting, as it would, a large swan's quill. It opened into the bladder in the ordinary manner.

The left kidney was about double its normal size, and presented in a remarkable extent the lobulated character; the fissures between the lobules being of great length. It was surmounted by a supra-renal capsule as usual. The appearance of cysts, filled with fluid, was now seen to depend upon a most surprising dilatation of the left ureter, which had more resemblance to the small intestine than any thing else. The dilatation was interrupted in three places by constricted portions, the central one of which, situated about midway between the kidney and bladder, was nearly half an inch in length, and was contracted to such a degree as not to admit a fine probe; and through this portion the urine could only be forced by considerable pressure. The other two contractions were to much less extent, and the upper would have allowed of the passage of the little finger, the lower of a large bougie. By means of these three constrictions the ureter was divided into four portions, or chambers, of irregular shape and size, which opened successively into each other. The whole canal was considerably lengthened, as well as dilated, and measured, when extended, about thirteen inches; the dilated portions being folded upon themselves. The lowest chamber, or division, was of the greatest size, measuring about $1\frac{1}{4}$ inch in its greatest diameter; the next superior was the smallest, being about $\frac{3}{4}$ of an inch in diameter; the third was about the same size as the first, but longer, and not so wide; the upper chamber, which represented the pelvis of the kidney, was about two-thirds the size of the third. The two upper chambers both presented traces of constriction in their centres.

This ureter communicated with the bladder by an opening of somewhat greater size than normal, and did not perforate the coats in the usually decided oblique direction. Upon introducing a probe through the bladder into the ureter, and examining the first contraction carefully with its point, no valvular fold of membrane could be detected. The muscular coat of the bladder was hypertrophied in a proportion corresponding to the dilatation of its cavity. About four or five ounces of turbid urine were contained in the bladder and left ureter, which had an acid re-action on

litmus paper; that expressed from the upper chambers of the ureter was mixed with a good deal of dirty mucus.

Neither of the testicles had descended. The right lay in the abdominal cavity in the iliac fossa, just above the inguinal canal. On the left side no testicle would appear to have been formed; the spermatic vessels on this side terminated in a little mass of fat; the vas deferens, however, was present, and was apparently as well developed as that of the perfect testicle.—The preparation has been deposited in the Hunterian collection.



I have been thus prolix in the narration of this interesting case of congenital malformation, from the conviction that this, if a fault, is one decidedly on the right side; and being satisfied

that numerous cases of malformation and monstrosity on record, lose half their value from being wanting in correct and sufficient detail. Many points which to the observer may appear trivial

and accidental, may, upon comparison with other similar cases, be found to be constant and important. It is only, I conceive, by a careful registry of facts of this description, that correct views upon the interesting question of the laws governing the development of the animal organism, and which ought to be equally applicable to the normal and abnormal conditions of each of its parts, can possibly be attained.

Although Meckel has observed that "the urinary apparatus is one of those which presents the greatest abundance of anomalies," yet I have not been able to meet with a case precisely, or even tolerably similar, to the one that has been narrated.

Sandifort, in his "Anatomico-pathological Observations," (vol. iii. tab. 4,) gives an interesting description of the case of a seven months' fœtus, which was malformed in several respects, in which the kidneys were united by a transverse band, and the left ureter was extremely dilated and tortuous, the dilations alternating with slight constrictions, whilst, on the right side, the dilatation was still more extensive, especially in the upper half of the ureter, which was more than two inches in circumference, and at its centre was of smaller calibre than normal.

In the German Ephemerides (Dec. 1, Ann. 1, Obs. 7,) the history is given of a female monster with two heads, two legs, and three arms, in which the right kidney was double; and its ureter was so excessively dilated at its entrance into the bladder, as to look "as if nature had wished to form a second bladder." In the same collection (Dec. 2, Ann. 9, Obs. 12,) is narrated the dissection of a girl, aged three months, who had died of epilepsy, in whom the left kidney was furnished with two ureters, one of the usual size, and the other extraordinarily dilated without any apparent cause. In this case the kidney consisted of two portions, each having its own ureter and emulgent artery, the ramification of which appeared to have been quite distinct.

In an interesting paper, by Dr. Robert Lee, "On the Functions of the Fœtal Kidney," in the 19th vol. of the "Medico-Chirurgical Transactions," we have the history of a remarkable case, in which the ureters were impervious; one of

them, the left, "terminating in a *cul de sac*." The pelves of the kidneys were dilated to such an extent, as to contain, the left four, and the right nine ounces, of a fluid "of a urinary nature."

Dr. Lee also cites a case from M. Billard*, in which the right ureter was obliterated, and reduced to a small cord, which was applied to the pelvis of the kidney, in the form of a goose's foot. These two last observations seem to illustrate the condition of the *right* ureter in the case which it is the object of this communication to narrate.

In the same paper another case is cited from Billard*, and also three cases reported by Mr. Howship†; and in all these, which occurred in newborn infants, we find that an imperforate condition of the urethra was accompanied by a great dilatation of all the urinary passages above the seat of obstruction, and especially of the ureters, the kidneys having also suffered from distension, and in Mr. Howship's first case having become atrophied.

A case is also given from the MSS. of the late Mr. Wilson, in which the dilated and convoluted condition of the ureters was associated with an enlarged condition of the kidneys, which are stated to have "gone into hydatids," probably, I should suppose, being the seat of accidental serous cysts.

In four of the cases collected by Dr. Lee, the dilatation of the ureters is sufficiently accounted for by the imperforate condition of the urethra; but in Mr. Wilson's case, and in that given by Sandifort, as well as in the two cases I have quoted from the German Ephemerides, no such lesion appears to have existed.

I regret very much that the urethra was not carefully examined in this case; but at the time this was not thought necessary, from the statement of the mother that the child evacuated its urine readily after the second day. It is easy, however, to conceive, that such an obstruction may have existed in the urethra, as was overcome with tolerable ease after birth, but which, during intra-uterine life, when voluntary efforts are probably comparatively feeble, might

* *Traité des Maladies des Enfants*, 1833, p. 451.

† *Op. cit.*

‡ *Practical Treatise*, &c. 1823, p. 376.

have altogether prevented the excretion of urine—a function, it may be observed, the existence of which, at this period, the researches of Dr. Lee have rendered highly probable.

Although not immediately connected with the subject of this communication, I will just refer to two cases in which a congenital defect in the urinary apparatus was strikingly marked.

In a foetus born at about the full period, in which the anus was imperforate, no trace whatever of kidneys, ureters, or urinary bladder, was met with, but the rectum presented a sort of cæcal appendage, or round diverticulum, which occupied the place of the urinary bladder; the supra-renal capsules were larger than usual*.

In a female examined by M. Perrin, in whom a bicorned uterus was found, the left kidney was found greatly enlarged, and its ureter was like the small intestine of a young person; it contained two calculi. There was no kidney or ureter on the right side†.

In the *Disp. Anatom. Selec.*, Haller has published a thesis, by Coschwitz‡, in which the author reports five cases of dilated ureters, which occurred to him out of seven bodies dissected within no very long time. The subjects were all males, and three of them of adult age, the two others being boys, one of whom was affected with calculus. In all these cases the dilatation, which was more or less extensive, alternated with constrictions, which occurred at pretty regular intervals. In four cases there were three constrictions, and in the fifth four, and upon slitting up the canals at each of these constrictions a valvular fold of membrane was met with, which was of a semilunar shape, and was directed downwards. The author, in conclusion, inquires whether these valvular folds be “natural or præternatural,” a question which he does not decide for want of evidence; but he cites the valves of the vascular and intestinal canals as favourable to the idea of their being normal.

Morgagni§ reports the case of a man who had died of apoplexy, in whom considerable disease of the urinary organs existed, with great dilatation of

the ureters, especially the right, which had become “so much longer by its dilatation, that it exceeded thirty fingers’ breadth when extended, for it often formed angles by bending itself here and there; and at these angles it seemed to be furnished with a kind of valves internally; but this appearance vanished when it was stretched out in a straight line. With the length and breadth of the coats, the thickness also had increased, so that it was easy for me to observe some things relative to their structure, of which it is not a proper place to speak here.” In this case there was no calculus, or obstruction of the urethra, or other circumstance, to which the dilatation of the ureters could be assigned.

Desgranges* gives the history of a female, aged 51, who had suffered for nineteen years from a tumor in the abdomen, with great pain in passing water. Upon dissection a large sac was found resting upon the psoas muscle, which proved to be the ureter dilated, and containing more than a pint of brown foetid urine. At the point, however, where the ureter passed over the brim of the pelvis, it regained its ordinary diameter, and presented in its interior a species of puckering, or circular membranous fold, so disposed as to fulfil the functions of a valve, and to oppose the free passage of the urine into the bladder.

The author remarks, that “this præternatural disposition of the interior of the ureter shews clearly how anatomists may deceive themselves, in hoping to ascertain the real and more intimate structure of parts better in their pathological than in their healthy state”—an observation that may have possibly been levelled against the remark of Morgagni, cited above.

Meeting with these cases of valvular folds in the ureters, I was curious to know whether any such valves existed in the case which has been detailed; and, as has been already stated, I examined the lower constriction carefully with the point of a probe, but without detecting any such appendage.

Many of the more common cases of dilated ureter, occurring in old men who have suffered from calculus, stric-

* Ephem. Dec. 1, Ann. 2, Obs. 22.

† Journ. de Méd. t. xiii. 1760.

‡ De Valvulis Ureterum, 1723.

§ De Morb. Caus., &c. Ep. iv. art. 19.

* Journ. de Méd. t. xcii. 1792.

ture, or diseased prostate, serve to shew that the central portion of the ureter is that which dilates least readily; and indeed it is frequently found of its ordinary calibre, when above and below the dilatation is very considerable. This is an observation which I am not aware has before been made, but which, I believe, a reference to almost any extensive pathological museum will confirm. In the case reported in this paper, it is to be observed that it was the central portion of the left ureter which was most extensively contracted; and, moreover, it was the central portion of the right ureter which had become obliterated; as was also the case in M. Billard's and Dr. Lee's first cases.

With the exception of the absence of valvular folds, and in the greater extent of the dilatation, there is a striking agreement in the condition of the left ureter, in the case now reported, with those given by Coschwitz, especially as regards the interruption of the dilatation by contractions. The number and situation of the dilatations and constrictions are very similar in all these cases, a circumstance which suggests the interesting inquiry,—*is there anything in the mode of development, or intimate structure of the ureters, capable of explaining this abnormal condition to which they are subject?*

I would just remark, that the case now reported appears to be chiefly remarkable from presenting a combination of such different, and in some respects opposite, malformations on the two sides of the body. The atrophy of the *right* kidney is perhaps sufficiently accounted for by the impervious condition of its ureter; and the hypertrophy of the *left* kidney must be regarded as necessary to compensate for the atrophy of its fellow. It remains, however, an interesting question, why the left ureter should have been so extraordinarily dilated, without *apparent* obstruction to the passage of the urine; and a still more interesting and difficult problem is still left for solution, why this dilatation should have been interrupted, at tolerably regular intervals, by constrictions of the canal.

Westminster Hospital,
Aug. 1, 1837.

REPORT OF CASES TREATED IN THE LUNATIC ASYLUM OF ABERDEEN.

By J. MACROBIN, M.D.

TABLE I.

Number of Patients in the Asylum, 1st May, 1836, (date of last Report)	107
Admitted between 1st May, 1836, and 1st May, 1837	39
	<hr/> 146

Whereof were considered curable (of the former number)	15
Ditto (of the latter number)	26
	<hr/>
Total number of supposed curable cases during the year	41

TABLE II.

Results.

Dismissed between 1st May, 1836, and 1st May, 1837, recovered....	24
Ditto, ditto, improved	8
Ditto, ditto, by desire of friends, un- improved	2
Ditto, ditto, of incurable and inof- fensive, or otherwise improper, patients	1
Dead, ditto, (of recent cases)	1
Ditto, ditto, (of old confirmed cases)	4
	<hr/>
Total number removed from the Asylum during the year	40
Total number remaining in the Asylum, 1st May, 1837	106
	<hr/> 146

The proportion of recoveries in every Asylum must depend very much on the mental and bodily condition of the patients at the time of admission. The foregoing tables will shew that thirteen out of thirty-nine, who were admitted during the last year, were considered to hold out no prospect whatever of recovery, being either paralytic or fatuous, or both. For the purpose, therefore, of placing in a proper point of view the success of the practice of the institution, the number of those who remained in it, at the date of last Report*, considered to be curable, and of those who have been admitted since in a similar condition, have been contrasted with the results as given in Table II.

Proceeding in this way, it appears that the total number of patients who have been subjected to a regular course

* See MEDICAL GAZETTE, vol. xix, p. 336.

of treatment was forty-one; and that the number actually recovered, during the same period, was twenty-four—fifteen females, and nine males. Eight others have been removed by their friends, much improved; and eight, not yet discharged, are convalescent.

It is still much to be regretted that so many fatuous, palsied, and other incurable patients are annually admitted to the Asylum. They detract from the reputation of the institution as a house of recovery, and occupy the room that had better be appropriated to curable patients; and although the general health and feelings of several of them have undergone considerable improvement in the course of the year, I am of opinion that every such patient, not dangerous to the public, may be as well treated at home. The fact that most of these incurable cases have arisen from the indecision of friends in applying to this or a similar institution at the beginning of the malady, cannot be too often urged on the notice of the public. It is, indeed, truly painful to reflect on the number who, even in the present enlightened times, are daily suffering from the mistaken views of their friends; until, by neglect of the only proper means, they are permitted to sink into a state of helpless idiotism. And it is yet more lamentable to perceive that it is just when the patient has arrived at this hopeless stage of the malady that the friends begin to discover a necessity for consigning him to what must now be considered as his future prison-house, and not as it should have been—had they acted with decision at first—his temporary abode merely; whence he might have taken his departure at no distant day, with sentiments of gratitude to all who were instrumental in putting him there, at a time when a well-founded expectation of recovery could have been entertained. We have much reason to fear, indeed, that this step is ultimately adopted as much with the view of ridding the family of a troublesome and useless member, as with a view to the special good of the patient.

The repugnance which some individual still entertain to public asylums is the chief cause, I believe, of the evil now alluded to—a feeling which may generally be traced to certain vague and foolish notions which they have imbibed

in regard to their internal management. And, ignorant of the great comfort and kindness with which the patients of such establishments are now every where treated, persons of this description are but little disposed to credit any statement that may be urged in favour of the vastly superior chances they afford of a recovery, compared with the unsatisfactory results of a practice pursued within the patient's own private dwelling.

As it would be considered out of place here to enter at any length into the investigation of the causes that gave rise to the insanity in the different cases admitted during the year, or to detail the symptoms by which they were characterised, I shall merely remark, in reference to the former of these topics, that the disease may spring either from physical or moral agents, but most commonly from a combination of the two. Thus it was with the most of the cases included in the following list, although I have referred each to that particular cause which was understood to have had the greatest share in the production of the insanity:—

Thirteen were distinctly ascertained to have connexion with hereditary taint.

Nine with inebriety, and other immoral practices.

Eight with the influence of some of the depressing passions upon an ill-regulated mind.

Two with disorder of the uterine function.

Two with severe bodily privations.

One with a mechanical injury that had been inflicted on the head.

One with debility from previous disease.

The next subject that I would allude to is the method of treatment pursued throughout the year. But here, again, I find it requisite to limit my observations to what bears a relation to the moral management. I observe, then, that of the moral treatment, the most prominent features have been these—1st, a steady system of *firm yet mild* discipline. This, combined with a perfect regularity in the different domestic arrangements, has been found to exert a highly salutary influence over the irregular and unruly propensities of the inmates. And to shew that a system of strict discipline, combined with active occupation, is not viewed by the patients as in any way oppressive or harsh, I

would simply mention, that scarcely any one has been known to leave the establishment without expressing to the Committee their sense of the benefit they had derived from the treatment to which they had been subjected; whilst not a few of them continue, from time to time, to visit the house, from a feeling of gratitude—a circumstance gratifying though it be to the managers, is doubly so to the medical attendants, as affording the most decided proof of a complete recovery of the patient.

The second grand feature in the moral treatment has been *steady* and *active* occupation, adapted to the mental and bodily condition of each patient. And here it is with much pleasure that I refer to the great advantages that have already accrued from the purchase of the property lying behind the Asylum; for although these grounds have not yet been enclosed, we have been able almost every day, for the last four or five months, to employ upwards of twenty male patients. And it is of importance to remark, that this system of occupation has not been confined to convalescents; several others, who were turbulent and incessantly declaiming on the various subjects that constituted their insanity, have been encouraged to take a share in the work, and are now reduced to a state of order and usefulness. From the remarkable docility, too, and habits of industry, which not a few of them have evinced, the work of cropping, as well as of trenching between seven and eight acres, has been executed almost entirely by them; and, consequently, at comparatively little expense to the institution.

Not only, however, has the mental and bodily condition of the male patients been manifestly improved since this system of working commenced, but being now fully exercised in a way that carries an interest to the mind along with it, they are free from all discontent and murmuring; and no longer brood over their confinement, nor exhibit that languor and listlessness which formerly preyed on their mental and bodily energies, and in no small degree counteracted the beneficial effects of medicinal agents.

I trust, then, that there will now be a permanent and almost daily source of occupation for all of the male patients that are in the least capable of working; and also, that as soon as the property is

walled in, an extensive promenade will be formed around it, for such of the patients as cannot be expected to participate in the labours of the field. Nothing, I am persuaded, will tend more than this to reconcile the higher orders of patients (males as well as females,) to their new abode, and temporary loss of liberty; especially when, having reached the stage of convalescence, they naturally become impatient of restraint, and irritated, if too constantly confined to so limited a space as one of our ordinary airing yards.

In reference to this, M. Pinel makes the following observation:—"A degree of liberty, sufficient to maintain order, dictated not by weak, but enlightened, humanity, and calculated to spread a few charms over the unhappy existence of maniacs, contributes, in most instances, to diminish the violence of the symptoms, and in some to remove the complaint altogether."

But, besides the twenty males who have been engaged in gardening and agriculture, there have been from eight to ten others occupied in the daily task of raising water to the cisterns, and in other domestic labours; whilst upwards of thirty females have been engaged in knitting, needle-work, picking senna for the druggists, plaiting straw for bonnets, cleaning the house, and washing; so that, out of 106 or 110 patients, between 50 and 60 have been almost daily and usefully employed throughout the year. But I would here beg leave to suggest, that the success of this part of our treatment might be much better judged of, were the superintendent and matron requested to keep a daily register, in which to enter the names of those employed, with the nature of their respective employments, and the extent thereof.

From the very decided benefit that has arisen to the patients from the system of occupation now alluded to, it is most desirable to have a sufficient extent and variety of *in-door* employment for the males, in wet weather, and at other seasons when *out-door* work cannot be obtained, or carried on with advantage to the health; for it is to be borne in mind that it is not from *occasional* employment of the patients that we are to expect benefit, but from a *steady* and *continued* exercise of their various faculties, mental as well as bodily.

As bearing on this branch of the Report, I may further observe, that, notwithstanding the increase of patients, the number under mechanical restraint or coercion has considerably diminished; and I feel pretty confident that the few who are at present subjected to it, on account of their dangerous and mischievous propensities (not exceeding 5 or 6), will soon be also freed from it, and brought under proper control, by being taken regularly to work along with the more orderly patients—guarded, of course, at first by a sufficient force.

The only other principle in the moral treatment to which I would at present allude is the *classification* of the patients. This is a subject of great importance in every well-ordered asylum. Yet, it must be allowed that, in a large establishment like ours, where the patients are derived, not from one, but from all classes of the community, it is difficult to bring it to a state of perfection, without incurring much expense. Nevertheless, we ought not on this account to be prevented from approaching it as closely as possible.

By classification, I would not be understood to mean simply the sub-division of the cases according to the form or *species* of insanity exhibited by the different patients; on the contrary, I would apprehend disadvantageous consequences from the congregating of persons suffering from similar morbid trains of thought. What I would desire to accomplish is, the sub-division of the cases into as many different classes as the capabilities of the building would admit of, so as to limit, as far as may be, the injuries inseparable from the intercourse of persons entertaining kindred delusions—an arrangement which can only be regulated by an attentive consideration of the symptoms or characters of the individual cases; and therefore requiring many separate halls, as well as separate airing grounds. For instance, the very noisy and violent should not, I apprehend, be allowed to disturb the peace of the better disposed patients; and individuals who still preserve a sense of decency should not be associated with those who are lost to all its perceptions and restrictions; neither should the well educated be placed with the vulgar and brutal; nor the blasphemer and obscene with those whose moral susceptibilities are as yet unim-

paired. And, again, those that are almost fully restored should not be in company with those who have the disorder upon them in all its severity; while, lastly, those who are depressed and in a state of melancholia should be separated from the extravagantly gay and excited; at the same time that they are kept apart from each other, so as to prevent the one from fostering the delusions of the other by his own example, or aiding him in his plans for the commission of suicide.

Under the old system of managing the insane, the want of accommodation in the day-rooms would not be much felt; but not so under the present improved system, where, instead of locking up the patients, or putting them in a strait-jacket, the attendants are required to control, order, and employ them, without having recourse to such expedients, unless in those rare and occasional instances where the discipline of the house is set at defiance.

The erection of the additional buildings will, however, effectually remove all inconveniences; for we shall then be provided with four new halls, which, added to the number the establishment already contains, would give us no less than twelve large apartments for the purpose of classification. Four of these may be appropriated to the various descriptions of *curable* patients, belonging to the *inferior* rank of society; four to the *incurables* of the same rank—altogether apart from the curables; and four to the males and females of the *higher* rank—together with four private parlours for such of the latter as can afford to pay the necessary board.

There has been much less sickness during the period embraced by the present Report than during any previous year within my knowledge. This is rather a curious fact, and it is difficult to say to what cause it should be attributed, since the weather has been unusually inclement, and therefore favourable to the production of disease;—and even when the influenza was raging in almost every family in Aberdeen, eight only were seized with it, exclusive, however, of the servants, most of whom suffered severely from it. This latter circumstance corresponds with the general observation, that lunatics are much less susceptible of *epidemic* influences than other individuals.

Five patients only have died within the year, which is about half the average rate of mortality. The following is a summary of the causes of death, and appearance on examination of the bodies:—The first was a female, aged 32, admitted in July, 1836, in a state of hopeless fatuity, combined with palsy, the consequence of inebriety. She died on the 25th of September last, having for some days previously suffered from an extensive and diffuse form of inflammation and suppuration of the cellular tissue of the left thigh. In this case the membranes investing the brain were found to exhibit the usual products of chronic inflammatory action, viz. abundant watery effusion over the hemispheres and into the ventricles, together with opacity and thickening of the arachnoid. The second was a male, formerly a private in the marines, aged 54, admitted July 1834, with complete amaurosis, and other symptoms of palsy, coupled with violent mania; also the consequence of repeated inebriety, and other immoral practices. He died on the 27th September, 1836, having gradually sunk in a comatose or apoplectic state: no examination of the body was allowed. The next was a female, aged 30, admitted August 1835, in a state of complete fatuity, which first appeared when she was 12 years of age, after having been subjected to an inordinate course of mercury, being at the same time of a highly scrofulous constitution. She died on the 29th of September, 1836, with symptoms of tubercular consumption and ulceration of the bowels, as verified by dissection. In this case, also, the brain and its membranes exhibited traces of chronic inflammation. The fourth was a female, 72 years of age, who had been an inmate of the Asylum for upwards of twenty years, and who had long suffered from chronic bronchitis. She died on the 28th of January, 1837, from gradual exhaustion. On examination, there were found, besides the usual appearance in the lungs and air-passages, the products of chronic inflammation of the brain and its membranes, viz. opacity and serous effusions. The fifth and last who died was a male, aged 39, admitted in September 1833, labouring under violent mania, which was soon succeeded by fatuity and palsy of the whole of the right side. Here, again, we find drunkenness acting as the chief exciting

cause:—he was foreman in a distillery, and had been dismissed by his employer on account of this vice. Upon examination, a very copious watery effusion was found within the head; the left striated body being at the same time completely removed by absorption, and its place occupied by the remains of an apoplectic or bloody effusion.

It thus appears that three of the above cases were complicated with palsy, and that one cause was common to them all, viz. inebriety. These facts tend to confirm an observation which I made in the report of last year,—that the male lunatics are much more liable to become affected with palsy than the female ones are. A majority of the former who have died in the Asylum during the last seven years were in this predicament; while only two of the latter were so circumstanced. This difference in the effect or termination of insanity in the two sexes, I am still inclined to think is mainly owing to the circumstance of males being more exposed than females to causes of a *physical* kind, and especially to the abuse of spirituous liquors, which every one knows to be a direct and powerful cause of inflammation of the brain and its membranes; passing into such organic alterations, as finally issue in palsy.

The palsy to which I have just referred, as supervening so often on insanity in the male sex, is almost always of a very chronic character, and is not limited to one side or one half of the body, as usually happens with those examples of the disease that succeed to cerebral hemorrhage, or to a *partial* softening of the brain; on the contrary, it pervades all, or nearly all; of the muscular structures of the body, more or less; from which circumstance, coupled with its very gradual approach and augmentation, it is very apt to be mistaken, at first sight, for simple delirium or exhaustion. And should the patient be at the same time fatuous, as is commonly the case, he may, by a careless and casual spectator, be mistaken for a person under the influence of drink,—his steps being vacillating, his countenance vacant, his eyes muddy and suffused, and his speech hesitating or inarticulate.

In all of the cases of this description that I have examined after death, there were discovered very copious serous effusions, seldom amounting to less than

5 or 6 ounces, both beneath the arachnoid investing the hemispheres and into the ventricles; with a notable loss of cohesion throughout the whole cerebral structure, especially of the more superficial parts. And as opacity and thickening of the arachnoid were always found associated with these appearances, I have been led to conclude that they all owe their existence to a general chronic inflammation of the brain and its investing membranes.

In regard to the performance of Religious Worship in the Asylum, I have to observe that the results appear to me to be highly satisfactory; and I doubt not they have also appeared in this light to those of the Managers who have had an opportunity of witnessing the manner in which the patients conduct themselves during its celebration. From sixty to seventy (exclusive of servants) attend the Chapel every Sunday, whose behaviour is, almost without exception, most orderly and becoming.

To those who are unacquainted with the habits of the insane, the idea of their joining in devotional exercises may appear absurd; but it is to be recollected that there are to be found amongst persons labouring under the various forms of deranged intellect, some who, however erroneous may be their ideas on particular subjects, are yet capable of thinking correctly enough on a variety of others, and on the subject of religion amongst the rest, and of experiencing from it no small degree of relief to their mental disquietude. If nothing more were gained by the attendance of the patients on divine service, a temporary check at least is given to the morbid train of thought in which they habitually indulge; and while this is of itself no trifling advantage, I have reason to believe that the good derived to some of them is of a still more valuable and permanent description.

In conclusion, I beg to state that the total number admitted and subjected to treatment on account of their insanity, during the last six years, has been 180; and that the number discharged within the same period, fully recovered, has been 115; besides 33 who were sent home, more or less improved, or in a state of convalescence.

NEW PREPARATION OF OPIUM.

To the Editor of the Medical Gazette.

SIR,

HAVING for several years employed a preparation of opium with great satisfaction, I beg leave to place it before the profession through the medium of your respectable journal. From my own observations, which have been extensive, I feel assured that it is in no respect inferior to the liquor opii sedativus of Battley.

About five years ago I suffered dreadfully from an injury received in a post-mortem examination, requiring repeated and extensive incisions; during the period of agony I took for a month this preparation with the happiest effects. It soothed the excessive irritability, and allayed the pain, without at any time producing any unpleasant effect upon the sensations. The preparation, which I label *Liquor Opii*, is made as follows:

Take two ounces and a half of the best Turkey opium; thirty-two fluid ounces of Beaufoy's acid, the strength of pickling vinegar: macerate with a gentle heat for six days, frequently shaking the vessel; then filter, and evaporate the fluid to the consistence of the extracts of the Pharmacopœia, finishing the evaporation by the spontaneous method. (*This I employ under the name of Extractum Opii Aceticum.*)

Take the above extract; alcohol, five fluid ounces; distilled water, thirty-five fluid ounces. Macerate for eight days, and filter.

This liquor opii will be about of the strength of tinctura opii in sedative property; but the strength may be varied at the will of the apothecary. I prefer it of the proportions I have stated. I have variously modified the manipulation of the above preparation, but I am not certain that the results have repaid the time, trouble, and expense.

From the rough experiments I have made, I am inclined to believe it contains a greater specific quantity of morphia than the tinctura opii of the Pharmacopœia. Be this as it may, I am confident that its medicinal properties strongly recommend it to the notice of the profession.—I am, sir,

Yours respectfully,
JOSEPH HOULTON.

MEDICAL GAZETTE.

Saturday, August 12, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

MISUNDERSTANDINGS PRODUCED BY PATIENTS.

A CORRESPONDENCE of a singular nature, and fraught with instruction to the members of our profession, has recently taken place between Sir Henry Halford and Mr. Francis Bush, a medical practitioner, residing at Frome. The letters have been published by the latter gentleman, and it is from his *ex-parte* statement alone that we know any thing of the transaction. According to his account, the circumstances may be briefly stated as follows:—Mrs. Theobald, the wife of a clergyman, came to London last spring on a visit, and took the opportunity of consulting Sir Henry Halford about her health. “She became indisposed (says Mr. Bush) from having weaned her infant, then a few weeks old, without using any means to prevent the febrile action which sometimes takes place from that cause.” Shortly afterwards, on their return to the country, Mr. Theobald called on Mr. Bush, and told him that Sir Henry had said “that her constitution had not been understood, and that her case had been improperly treated,—that her health had been tampered with, and that the medicines which had been used were like fuel added to fire.” Upon this Mr. Bush wrote to Sir Henry a letter, not very remarkable certainly for its temperance or moderation, demanding an explanation of the “defamatory observations” and “slander” assumed to have been uttered. Sir Henry Halford, in reply, denies “upon his honour” that he had ever “used a word in reflection

upon the conduct of any person who had attended upon Mrs. Theobald.” On the receipt of this letter, Mr. Bush made a very explicit and proper apology; and here one would naturally have expected the affair to drop; but not so. A fortnight more brought letter No. 3, from Mr. Bush to Sir Henry Halford, stating that the Theobalds persisted in their edition of the story, and repeating the demand of an “ample apology,” under the threat of exposure in the *Lancet*, or an action at law, as might be afterwards decided upon by the offended party. In short, Mr. Bush had lost his patient before, and now also lost his temper. Sir Henry, in reply, dared him to do his worst; and he did accordingly transmit the whole correspondence to our contemporary, by whom the letters are published.

Such is the narrative. Now the lesson we would wish to draw from it consists in impressing upon our readers the caution—the extreme caution—with which they ought alike to make and to receive communications regarding the previous treatment of patients. The confidence of the medical attendant is constantly violated, and no practitioner is safe who, in his intercourse with those who consult him, does not keep constantly in mind that what he says will be repeated by the patient, whenever it suits his purpose to do so, and probably with mistake or exaggeration. We appeal to every man who has been but a few years in practice, whether this is not the case—whether, as a general rule, the public shew any good faith towards their professional attendants—any consideration whatever for the mutual feelings or points of etiquette which may be supposed to exist among medical men? Whether, in short, there is any safeguard against the most con-

fidential observations being repeated, excepting only where it is the personal interest of the patient himself to keep them secret?

We have no reference to the mere facts of the preceding case in these remarks as to who was right or who was wrong, but we allude exclusively to the question as a general one. The correspondence referred to has very strongly forced upon our attention the difficulty under which the want of candour and the gossiping propensities of their patients often place medical men; and we, therefore, seize the opportunity of directing their attention to the circumstance. Nothing is more common than to be consulted by a party who gives his own colouring to his previous state and previous symptoms—tells us a certain portion of his history and no more—suppresses one part and colours another—probably draws from us an opinion which does not altogether tally with one he has formerly got from some other attendant, and having done this he represents, in his own way, the nature and extent of the difference, as well as the language in which it has been expressed—and behold “a very pretty quarrel” is the consequence.

That there are jealousies and rivalships in our profession, as in others, all the world knows; the *odium medicum*, we fear, is no imaginary passion; but of this we are quite sure, that a great portion of the resulting evil may be traced to the mistakes or misrepresentations of the mutual patient. Nay, in the particular instance before us, and on Mr. Bush's own shewing, we perceive strong evidence of this. A lady, he tells us, had weaned her infant “*without using any means to prevent the febrile action which sometimes takes place from that cause.*” Under these circumstances—that is, at a time when she required certain remedies which had not been ad-

ministered—she applied to another medical man, who at once prescribed them. Now we put aside altogether what was actually said on this occasion, and limit ourselves to this—that the simple fact of administering different remedies implies a difference of opinion; and we know from experience, that patients are not backward in coming to this conclusion,—nay, they frequently go a step further, and, as we have already said, in order to justify themselves for leaving an old attendant, attribute to the new one expressions much stronger than he has actually used, and very possibly add some to which he has used nothing in the least analogous.

Again, we shall suppose that a patient obtains the opinion of a medical man as to his case, and that it really is essentially different from what has been given by another:—can any thing, we ask, be more unjustifiable than to proceed straightway to the house of the first adviser, and repeat certain expressions, which, if used at all, must have been used in confidence? If this is to be done, how can such patient expect ever again to obtain the free and candid opinion of any medical man?

Let it not be supposed that we would countenance or extenuate a piece of unprofessional conduct, come from what quarter it may; but in the present instance there is no evidence of any such having been committed, and our only motive for alluding to it is to avail ourselves of the opportunity of putting prominently forward, in connexion with a particular case, what we have long been convinced of—namely, that half the differences among medical men, with regard to points of etiquette occurring in practice, depend upon the disingenuousness of patients who, when they wish to change their attendant, do not stick at a trifle to excuse themselves to him, and will rather attribute the cir-

cumstance to something else than the simple motive of their love of change, or loss of confidence. He who listens to the tale should at least keep in mind that a statement, the making of which involves *ipso facto*, a breach of confidence, ought always to be received with distrust.

The longer we live the more we are convinced that medical men generally give their patients credit for more discretion and good faith than practically they will find them to display; at all events, so much of what they say is misunderstood, or misapplied, that they cannot be too careful in avoiding any expression which can by possibility be converted into censure of the medical man who has preceded them; for when the patient has changed his "Doctor," he jumps with his own conceit to be told that he whom he has discharged was undeserving of his confidence.

ABSTRACT OF THE RECENT ACT RELATING TO WILLS.

MEDICAL men are so commonly called on to assist in making or witnessing wills, and to give evidence respecting their validity, that we think the following abstract of the first Act of the present reign will be acceptable to them:— It is intituled "An Act for the Amendment of the Laws with respect to Wills," was drawn up by Lord Langdale, and received the Queen's assent on July 3d. The following are abstracts of the clauses in which the profession are likely to be occasionally interested:—

"7. That no will made by any person under the age of 21 years shall be valid.

8. That no will made by a married woman shall be valid, unless made before the passing of this Act.

9. That no will shall be valid unless in writing, and executed as follows, viz. It shall be signed at the foot or end thereof by the testator, or some other person in his presence, and by his di-

rection; and such signature shall be made or acknowledged by the testator in the presence of two or more witnesses present at the same time, and such witnesses shall subscribe the will in the presence of the testator, but no form of attestation shall be necessary.

10. No appointment made by will in exercise of any power shall be valid unless executed as above, but every will thus executed shall be a valid execution of appointment by will.

11—12. This Act not to affect the disposal by will of the personal estate of soldiers and mariners in actual service, nor any of the provisions of the act of 11 Geo. 4. and 1 William 4. c. 20, relating to the wills of petty officers and seamen in the navy and marines, so far as relates to their wages, prize money, and other monies payable in respect of services in his Majesty's navy.

14. If any person who attests the execution of a will, shall at the time or afterwards be incompetent to be admitted a witness to prove its execution, such will shall not, on that account, be invalid.

15. If any person shall attest the execution of a will to whom or to whose wife or husband any beneficial devise, legacy, interest, gift, or appointment of or affecting any real or personal estate (other than charges and directions for the payment of any debt) shall be thereby given or made, such devise, legacy, &c., shall, so far only as concerns such person attesting the execution, or the wife or husband of such person, or any person claiming under such person, or wife, or husband, be utterly null and void, and such person so attesting shall be admitted as a witness to prove the execution of such will, or to prove the validity or invalidity thereof, notwithstanding such devise &c. mentioned in such will.

16. Any creditor, or the husband or wife of any creditor, may attest the execution of a will by which any real or personal estate is charged with the debt due to him, and is admissible as a witness to prove its validity or invalidity.

17. And the same with any executor.

20. No will or codicil can be revoked except (by marriage or) by another will or codicil executed as before-said, or by some writing declaring an

intention to revoke the same, and executed as before said, or by the burning, tearing, or otherwise destroying the same by the testator, or by some person in his presence, and by his direction, with the intention of revoking the same.

21. No obliteration, interlineation, or other alteration made in a will after its execution, shall be valid, except so far as the words or effect of the will before such alteration shall not be apparent, unless such alteration shall be executed in like manner as hereinbefore is required for the execution of the will; and the execution of this alteration may be made by the testator and witnesses subscribing their names in the margin opposite the alteration, or some part near it, or at the end of the will opposite a memorandum referring to such alteration."

MEDICAL STAFF OF THE QUEEN.

Physicians in Ordinary. — James Clark, M.D.; Sir Henry Hallford, Bart., M.D., G. C. H.; William Frederick Chambers, M.D., K. C. H.

Sergeant-Surgeons. — Sir Astley P. Cooper, Bart., G. C. H.; Sir Benjamin C. Brodie, Bart.; Robert Keate, Esq.

Physician to the Household.—James Clark, M.D.

Surgeon to the Household. — John Phillips, Esq.

Apothecary to the Person. — John Nussey, Esq., and Edward Duke Moore, Esq., jointly.

Apothecary to the Household.—John Nussey, Esq., and Charles Craddock, Esq., jointly.

Physicians Extraordinary to her Majesty.—Sir James M'Grigor, Bart. M.D.; Henry Holland, M.D.; Peter Mere Latham, M.D.; Richard Bright, M.D.; Neil Arnott, M.D.

Surgeons Extraordinary to her Majesty.—Benjamin Travers, Esq.; Thomas Copeland, Esq.; Wm. Lawrence, Esq.; Henry Earle, Esq.; Richard Blagden, Esq.

Apothecaries Extraordinary to her Majesty.—Messrs. Merriman, of Kensington.

Surgeon Dentist to her Majesty.—Charles Dumergue, Esq.

Surgeon Chiropodist to her Majesty.—Louis Durlacher, Esq.

Chemist and Druggist to her Majesty.—Mr. Squire.

VARIOUS OBSERVATIONS AND REMARKS.

BY M. KRAUSE.

From Müller's Archiv. Heft i.; 1837.

ON THE CAPACITY OF THE TUBULI SEMINIFERI.

Monro measured the extent of these tubules by immersing the whole testis in water, and ascertaining the volume which it displaced; then measuring the diameter of a single tubule, he calculated what length of cylinder of this diameter would equal in cubic contents the contents of the whole testicle, deducting from the result one-third for the vessels and cellular tissue. By this calculation he was induced to consider them to contain be 5208 feet in length.

Lauth reckoned it in somewhat the same manner, deducting one-tenth for the vessels and connecting tissue, which gave him 1750 feet as the sum of the lengths of all the tubuli. He calculated the length of the epididymis by the weight of mercury which it required to fill it, finding what length of cylinder the volume corresponding to that length was equal to; but this was necessarily an inaccurate method, from the distension the tube would undergo.

Krause measures the diameter of a single tubule, and selecting two which run parallel for some distance, he measures also the distance between these two, the difference between which distance and the diameter of the tubule is the breadth of the connecting cellular tissue and vessels. The former he estimates at 1-12th of a line, the latter at 1-27th. A portion of such a tubule an inch long would have a cubic content of 0.00007853 cubic inches; and the whole content of the testis, divided by this, gives the length of all the tubules together, on an average = 1015 feet, and their secreting surface nearly two square feet, a sum far less than that at which Monro and other anatomists with him had estimated it, and probably considerably less than the extent of the secreting surface of the kidney.

ON THE CAUSES OF ERECTION.

Krause thinks that this phenomenon is not sufficiently explained by the active pouring of blood by the helicine arteries* into the great venous cells, as demonstrated by Müller; for he finds that it is not possible, by injecting thin fluids, to give the penis the degree of firmness and tension

* See MEDICAL GAZETTE, vol. xviii.

which it has in complete erection during life, unless the venous trunks at its root, or in the pelvis, be accurately compressed to prevent the injection passing out of them as fast as it is thrown into the arteries. He considers, therefore, that some plan must exist by which a similar retardation of the exit of the blood is effected during life; and this he thinks is the office of the musculi ischio-cavernosi and bulbo-cavernosi,—the ischio-cavernosus of each side arising from the inner side of the ramus of the ischium and os pubis immediately over the crus penis, round whose under and outer surface it winds, and inserted in part into the fibrous covering of the penis, and in part by a thin aponeurosis in the back of the penis, and into the ligamentum suspensorium, meets the aponeurosis of that of the opposite side over the vena dorsalis penis, and by the attachment of its edges to the fascial covering of the penis serves to maintain that tense. By this winding course these muscles are able in their contractions to compress all the deep veins of the corpus cavernosum in the crura penis against the rami of the ischia and ossa pubis, and by the firmly-fixed aponeuroses meeting in the median line the vena dorsalis penis.

The bulbo-cavernosi, by their contraction, have, it is probable, a similar power of compressing the veins of the corpus spongiosum urethræ. Under the influence of peculiar excitement, these muscles enter into a kind of tonic spasm or involuntary contraction, at the same time that the increased activity of the flow of blood in the helicine arteries takes place; and both these circumstances are necessary to complete erection. In very young children, and even in new-born infants, erection may take place, and they are found to have both helicine arteries and well-developed cavernous muscles; but in old men, in whom it occurs very rarely and insufficiently, the musculi ischio-cavernosi are thin and pale, or almost entirely tendinous, though the helicine arteries are still perfect.

PERFORATION OF THE INTESTINES BY A
FRAGMENT OF BONE.

On the evening of December 26, 1836, a man was admitted into the Hôtel Dieu, presenting all the symptoms of strangulated hernia, and who had been vomiting fæcal matters for fifteen hours. The man was of strong constitution, aged 69, and had always enjoyed good health until the time when he was seized with colic and vomiting. He could assign no cause for

his illness, and had continued to work till a short time before the time of his attack. He had had from childhood a small inguinal hernia, which had never been strangulated. On his admission he presented the following symptoms:—

Pulse small, hard, and frequent; skin cold and clammy; face expressive of anxiety and suffering. He vomits fæcal matter every five minutes; continual nausea and hiccup; tongue red at the edges, of a greenish yellow colour towards the centre. Has had no stool for seven or eight hours; violent colic; the belly tense, tympanitic, and painful on the slightest pressure at all points, but principally at the right hypochondrium; considerable heat of the abdominal parietes. In the left inguinal region there was a small easily reducible hernia, which had never given any pain. When he was admitted, a linseed-meal poultice was applied to his belly.

During the night he constantly vomited green, bilious, and stercoraceous matter; the violence of all the other symptoms increased, and the patient began to sink. Some supposed that there must be a strangulation either of a corner of the intestines, or of the epiploon simply; while others, with M. Blandin, attributed the symptoms to peritonitis. This being his opinion, M. Blandin performed no operation, and only ordered emollient cataplasms and purgative injections. The symptoms continued unabated till the time of his death, which took place twenty hours after his admission.

On examination after death, the only remarkable appearances were seen in the abdomen. When the abdominal parietes were cut down upon, a considerable quantity of greenish matter escaped, which was spread throughout all the abdomen, especially in the right iliac fossa, and in lower division of the pelvis. The intestines were all glued together, but could easily be separated. The peritoneum, corresponding to the abdominal parietes, was uniformly red, thickened, and rough, bearing the traces of having been the seat of acute peritonitis. No strangulated hernia was found. On raising the intestines, a quantity of matter escaped, and the perforation of the bowel was seen. It was situated at the commencement of the ilium. It was partly closed by a small fragment of sharp triangular rough bone, the point of which had passed through the intestine, while its larger end was still in the interior of the canal; the rest of the intestines, as well as the stomach, were healthy, although still full of green bilious and stercoraceous matter.

The above case is highly interesting, on

account of the great resemblance of the symptoms to those of strangulated hernia, as well as the rare occurrence of intestinal perforations caused by the swallowing of foreign bodies.—*La Presse Médicale*.

ST. GEORGE'S HOSPITAL.

Amputation at the Shoulder joint; Rude Amputation of the Arm by machinery—Compound Fracture of the Thigh; Amputation; Curious Stupor—Diseased Knee-joint; Amputation—Excision of Tonsils—Removal of Finger.

IN our two last reports we have given an account of operations performed at St. George's Hospital in the month of June, and the present report will complete the list of the June operations.

A mason, about 45 years of age, was working close to a saw-mill on the 23d of June, when he unfortunately slipped his left arm under the saw, which completely amputated the fore-arm about three inches above the wrist, leaving a ragged stump, with splintered bones and tendons. His arm slipped next still further against the saw, and a second wound was inflicted very near the shoulder-joint, cutting across the triceps, latissimus dorsi, teres, &c. down to the bone, which was half-sawn across also, the cancellous structure being opened deeply, and the bruised muscles being covered with small splinters, though enough of the bone remained unhurt to prevent a fracture. The stump of the fore-arm and the upper wound both bled very much from numerous arteries, which were controlled by some gentlemen in attendance, till Mr. Hawkins, the surgeon of the week, had been sent for, who found him, about half an hour after his admission, suffering frightfully from pain, and in such a state of agitation and collapse from suffering and from loss of blood, that Mr. Hawkins thought it better to defer an operation till he was more composed, and left a tourniquet to press on the axillary artery, against the acromion process. About two hours afterwards he was more quiet and less faint, though still complaining of most violent pain; and the removal of the limb was then effected, which it was thought right to do at the joint, as the bone and muscles were injured so high up.

With a very broad short knife a flap was raised, consisting of the deltoid muscle; and the head of the bone was quickly separated from the joint. Then the limb was removed by an amputating knife, while pressure was made on the subclavian

artery, and Mr. Hawkins passed his fingers in while the knife was acting, so as to hold the axillary artery at the instant almost of its division. The operation was extremely rapidly performed, and the vessels as quickly tied, so that we believe not three ounces of blood were lost during the whole time, though the circumflex arteries were deeply retracted. Three sutures were then put in, and the stump dressed with strapping and bandage; and some opiate was given him.

24th.—He passed a very quiet night, and slept occasionally; but this morning he became restless, shifting his position frequently, and complaining of some pain and starting in the shoulder; his pulse was at the same time very weak. Some wine was given him, but the symptoms continued to increase; and in the middle of the day, when Mr. Hawkins visited him, he was still very restless, with the pulse hardly perceptible, and the hands and feet cold, with much perspiration over the body. It was now learned from his wife that he had lived a very intemperate life, till about three months ago, when he found his health suffer so much, that he had resolution suddenly to leave off all spirituous liquors whatever; while his stomach was at the same time so impaired, that solid food was very sparingly taken as a substitute for his former stimulants; in fact, he had scarcely had a mouthful of meat for several months. This shewed about as unfavourable a constitution as could well be met with, for severe injuries and operations. Some wine and gin, with beef-tea and arrow-root, were directed to be given in small quantities, at short intervals, with a few drops of laudanum when he was most restless; which had the effect of rendering him, by 10 P.M., quite composed and rational, and the circulation and warmth of the body were restored to a nearly natural state, though the pulse was still weak. During the night, however, he again became weak and restless, and altogether refused food and stimuli, and died about 11 A.M., on the 25th, about forty hours after the operation.

On the wound being examined, it was found to have become very little changed since the operation.

. June 28th.—A lad about 20 years of age was brought in, with a compound fracture of the thigh near the knee-joint, which had been produced by its being run over on a railroad, and which, as usual with such accidents, was accompanied with much contusion and laceration of the soft parts. He was not brought to the hospital till nine hours after the accident, at which time, about two in the

morning, the limb was amputated by Mr. Babington. He was remarkably quiet both before and during the operation, and was sometimes with difficulty made to answer, lying with his eyes half-shut and turned up, just as if he had been under the influence of opium, or as if he was in a state of stupor from an injury of the head; neither of which, however, could be the case, as far as could be ascertained. The pulse was regular and natural during these temporary losses of consciousness. This curious and unaccountable condition continued more or less for several days, when he became delirious, and anxious, and depressed, and died on the 6th of July. During the first few days the thigh seemed going on well, till about the time the delirium came on, it swelled as with inflamed veins, though without tenderness along the course of the veins. The treatment during the state of stupor consisted of calomel in small doses, and blisters to the neck, which seemed beneficial, till the first symptoms became merged in the irritation which followed them.

On examination of the body, there was found inflammation, to a considerable extent, in the femoral veins, with the usual deposition of lymph and pus, and along the sheath of the vessels; and in the cellular texture between the sartorius and other muscles of the thigh, a good deal of lymph and pus was found. This state of parts easily accounted for the latter set of symptoms, with which he died; but nothing whatever was discovered in the head, or elsewhere, which could explain the remarkable state of half stupor observed during the first few days: so that the vague term of the shock to the system must be employed to account for this condition.

On the 29th June, three operations were performed.

The first was an amputation of the thigh, by Mr. Hawkins, for disease of the knee-joint, in a young man, 24 years of age, admitted on the 9th of April, at which time the disease had existed nine weeks, from a strain. Various means were resorted to, with temporary benefit, but latterly abscess appeared to be forming in the joint, and the man's health was suffering so much, that amputation became absolutely necessary.

On examining the joint, the synovial membrane was found immensely thickened, being in some places an inch in thickness: it was soft, vascular, and very irregular on its inner surface, partly from a quantity of newly-formed, half-organised, and semi-transparent substance, and partly from a number of small abscesses, which had

formed in this altered synovial structure, and even in what seemed to be quite an adventitious formation. Some of these little purulent deposits had burst into the joint, and others had ulcerated into the surrounding cellular structure, while some were still entire; and the quantity of thick pus contained in them all was very considerable. The cartilage had been slightly thinned by absorption over the inner condyle, but the bone was not exposed.

Complete union of the stump took place, and he seemed to be going on well from the 29th to July 8th, when he was found to be very unwell, complaining of pain in the epigastrium and of distension of the abdomen, and the stump looked unhealthy, with retraction. The next day he had much diarrhoea and pain, and during the night of the 9th had such anxiety and pain as to induce some to think there was peritonitis. The purging, vomiting, and pain, were subdued by mustard poultices and opiate injections, but he rapidly sunk, and died on the 10th.

On examination, the stomach was found enormously distended, so as to reach nearly to the pubes, and in it was an immense quantity of green liquid, with undigested green peas and beans, which it appeared had been brought in by some friends, and which had no doubt produced the fatal collapse, which was almost as rapid as in cholera, with the same intense anxiety and dark colour. Nothing else was found, except some venous congestion, with emptiness of the small intestines, the result, no doubt, of the diarrhoea.

The other operations on the same day were the excision of both tonsils, by Mr. Keate, in a state of chronic disease, in a girl of 12 years of age, a blunt bistoury being used in the operation, which was less troublesome than usual, from the muscles of the fauces being less irritable.

The other operation was the amputation of the finger, at the metacarpal joint, by two lateral flaps, which was also done by Mr. Keate, for diseased bone.

PHYSIOLOGY OF THE EYE.

MESSRS. WALKER AND HUNT.

To the Editor of the Medical Gazette.

SIR,

WILL you allow me to call the attention of two of your contributors and antagonists (Messrs. Walker and Hunt, of Manchester), to a very elaborate statement pub-

lished in the *MEDICAL GAZETTE* of Dec. 17, 1836, by Mr. Lonsdale, entitled, "Observations on the Functions of the Muscles and Nerves of the Eyeball."

I think, sir, if these gentlemen will take the trouble to carefully peruse, and critically study, Mr. Lonsdale's paper (which has apparently been overlooked by them), they will find *that* in it which may perhaps reconcile differences, and put an end to those *petty squabbles* which tend only to lower and discredit the profession, and more especially (as I have unfortunately seen it) when it occurs between *colleagues*.

By your inserting these few lines in the *GAZETTE*, you will not only oblige a constant reader, but, I believe, the profession generally.

Your obedient servant,
PACIFICATOR.

London, Aug. 7, 1837.

[We quite agree with "Pacifactor" as to the inexpediency of continuing this discussion, and trust our friends in Manchester will do the same. The letter dated August 8th has been received, but no advantage would result from publishing it.—*ED. GAZ.*]

TREATMENT OF INFLAMMATION.

To the Editor of the Medical Gazette.

SIR,

As Mr. Searle's answers to my four last questions consist merely of a repetition of some of the arguments adduced by him at different times in support of his "new-fangled doctrine"—arguments which, during our controversy, I have in various ways endeavoured to refute—any further reply on my part would necessarily compel me to go over the old ground a second time, which could certainly serve no useful purpose, nor prove in any way interesting to your readers. I therefore beg, through the medium of your journal, respectfully to take my leave of Mr. Searle, who, notwithstanding the "new-fangled doctrine," is undoubtedly a man of no mean professional attainments; and on retiring, at least for the present, from the field of contest, to assure him, should he at any future period bring forward fresh arguments in favour of the views which he entertains respecting the nature and treatment of inflammatory diseases, that I shall take them dispassionately into consideration, and either honestly oppose them, or, in the event of being convinced by them, willingly become his disciple, and acknowledge him to be the victor. In the meantime I remain his unconverted servant, and

Your constant reader,
INVESTIGATOR.

August 8, 1837.

REGISTRATION OF BIRTHS, &c.

To the Editor of the Medical Gazette.

SIR,

I AM resident in a country town where the office of Registrar of Births, Deaths, &c. is filled by a medical practitioner: now I conceive a medical man to be the most unfit to hold such an appointment, as it gives him an opportunity of prying into the affairs of his professional brethren, and becoming acquainted, as he necessarily must, not only with the extent, but also the locality of their practice, tending to induce ill-will, and giving rise to invidious comparisons—I am, sir,

Yours, &c.

SCRUTATOR.

August 8, 1837.

ROYAL COLLEGE OF SURGEONS IN LONDON.

JACKSONIAN PRIZE.

THERE are two prize-subjects for the year 1838, viz.

On the comparative advantages of Lithotomy and Lithotrity, and on the Circumstances under which one method should be preferred to the other; and

The Structure and Treatment of Nævi and other erectile Tumors.

Candidates to be members of the College, not of the Council.

Dissertations to be in English; and the number and importance of *original facts* will be considered principal points of excellence. Recited cases to be placed in an appendix.

Each Dissertation to be distinguished by a motto or device, and accompanied by a sealed paper, containing the name and address of the author, and having on the outside a motto or device corresponding with that on the dissertation.

Dissertations to be addressed to the Secretary, and delivered at the College before Christmas Day, 1838.

The manuscript Prize-Dissertation, and every accompanying drawing and preparation, will become the property of the College.

Dissertations which shall not be approved, with their accompanying drawings and preparations, and correspondent sealed papers, will be returned upon authenticated application within the period of three years; and those manuscripts which shall remain three years unclaimed, and every accompanying drawing and preparation, will become the property of the College; at which period their accompanying papers, containing the names of the respective authors, will be burned, un-

opened, in the presence of the Jacksonian Committee.

The Prize-Subject for the present year, 1837, is—

An Inquiry into the Nature and Processes of Suppuration and Ulceration;

Dissertations upon which must be delivered at the College before Christmas Day next.

EDMUND BELFOUR, Sec.

July 1837.

COLLEGIAL TRIENNIAL PRIZE.

The Board of Curators announce that the subject for this prize is,

To determine the diameters, disposition, and modes of communication of the continuous capillary Arteries and Veins, both in the pulmonary and general Circulations. The subject to be illustrated by injected and other Preparations both of the human body and of inferior animals.

Candidates to be members of the College, not of the Council.

The Dissertations to be in English, and to be distinguished by a motto or device, accompanied by a sealed paper, containing the name and residence of the author, and having, on the outside, a motto or device corresponding with that on the Dissertation.

Dissertations, addressed to the Secretary, to be delivered at the College before Christmas-day 1839.

The Prize Essay, with every accompanying drawing and preparation, will become the property of the College: the other Dissertations, and their corresponding sealed papers, will be returned upon authenticated application within the period of three years; after which period the papers containing the names of the respective Authors will be burned, unopened, in presence of the Board of Curators, and the Manuscripts will become the property of the College.

By Order of the Board,

EDMUND BELFOUR, Sec.

2nd day of August, 1837.

TEMPORARY CLOSE OF THE MUSEUM.

The members and visitors are respectfully informed that the Museum of the College will be closed, for the purpose of completing the arrangement of the collection, from Monday the 21st instant until Saturday the 30th of September next, both inclusive.

By Order of the Council,

EDMUND BELFOUR, Sec.

August, 1837.

N.B.—The Library of the College is closed, as usual, during the present month.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 10, 1837.

James Dawson, Swillington, Yorkshire.—John Smith, Millbridge, near Leeds.—Joseph White Holm, Kilburn, Middlesex.—Ralph Fulshaw, Kirby Mallory, Leicestershire.—Wm. Fletcher, Tean, near Cheadle.—Frederick Hosken Tucker, Halifax.—Frederick Hobson Warren, Exeter.—William Henry Hayden, Bath.—Christopher K. Levick, Nottingham.—Erasmus Wren, Eastwood, Essex.—Arthur Woodhouse.—Jas. Miller, Newcastle-on-Tyne.—Henry Willington, Temple Balsall.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Aug. 8, 1837.

Abscess	1	Hæmorrhage	3
Age and Debility	23	Heart, diseased	2
Apoplexy	6	Hooping Cough	13
Asthma	5	Inflammation	16
Childbirth	2	Bowels & Stomach	4
Consumption	38	Brain	7
Convulsions	33	Lungs and Pleura	6
Dentition or Teething	9	Measles	8
Diarrhœa	1	Mortification	2
Dropsy	6	Paralysis	1
Dropsy in the Brain	12	Small-pox	3
Dropsy in the Chest	1	Thrush	1
Epilepsy	1	Tumor	1
Fever	18	Unknown Causes	2
Fever, Typhus	2		
Gout	1	Casualties	3

Decrease of Burials, as compared with }
the preceding week } 107

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

July.	THERMOMETER.	BAROMETER.
Thursday . 27	from 41 to 82	29·97 to 29·82
Friday . . 28	51 77	29·73 Stat.
Saturday . 29	47 69	29·38 29·23
Sunday . . 30	45 65	29·44 29·65
Monday . . 31	46 68	29·80 29·82
Aug.		
Tuesday . . 1	45 68	29·71 29·64
Wednesday 2	50 75	29·64 29·61

Wind, S.W.

Except the 27th and 31st ult. generally cloudy, with frequent and heavy showers of rain.

Rain fallen, ·1 inch, and ·6 of an inch.

Thursday . 3	from 49 to 69	29·61 to 29·63
Friday . . 4	46 68	29·79 29·86
Saturday . 5	33 65	30·04 30·07
Sunday . . 6	38 67	30·13 30·18
Monday . . 7	42 67	30·23 30·26
Tuesday . 8	38 68	30·28 30·21
Wednesday 9	41 72	30·10 29·94

Wind, N.E.

Except the morning of the 7th, generally clear. Rain on the 3d and following day.

Rain fallen, 1·375 of an inch.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE
LONDON MEDICAL GAZETTE,
BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, AUGUST 19, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMA-
COLOGY, AND GENERAL
THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

By JON. PEREIRA, Esq., F.L.S.

LECTURE LXX.

SPIGELIACEÆ.

THIS family contains two genera; and one only of these is used in medicine.

Spigelia Marilandica.

The anthelmintic virtues of this plant were first learned from the Cherokee Indians, who became acquainted with them, according to Dr. Garden, about 1723; they were made known to the profession about 1740.

It is a native of the southern part of the United States. The perennial root consists of numerous fibres, which arise from a short cylindrical rhizome: this gives origin to several erect, simple, four-sided, and winged (from the decurrent leaves) stems. The leaves decussate, and are ovate-lanceolate, acuminate, entire, smooth, but somewhat slightly pubescent on the veins and margins. The flowers form simple, one-sided spikes. The corolla is much longer than the calyx, and is of a rich carmine colour externally, paler at the base, and orange yellow within. The fruit is an obcordate, smooth, capsule, containing in each cell several seeds.

It belongs to class *Pentandria*, order *Monogynia*, in the Linnean arrangement.

According to Messrs. Wood and Bache (*Dispensatory of the United States*), "it is collected by the Creek and Cherokee In-

dians, who dispose of it to the white traders. By these it is packed in casks, or more commonly in large bales, weighing from three hundred to three hundred and fifty pounds. That contained in casks is to be preferred, as less liable to be damp and mouldy. Owing to the imperfect manner in which the plant is dried, it seldom happens that packages of it reach the market free from dirt and mouldiness, and having the stalks of a bright colour. Some parcels have recently been brought free from the stalks, and have commanded more than double the price of the drug prepared in the usual way."

The dried plant, as usually met with in the shops, is of a greyish green colour, a faint odour, and a bitter taste. The root consists of numerous, slender, branching, dark brown fibres, issuing from a short, dark brown rhizome.

According to the analysis of Wackenroder, the following are the constituents of the herb and root:—

Root.

Fixed oil.....	a trace.
Acrid resin, with some fixed oil	3·13
Peculiar tannin	10·56
Bitter acrid extractive.....	4·89
Woody fibre (which yields	16·74
of ashes).....	82·69
	101·27

Herb.

Myricin.....	0·30
Resin, with chlorophylle.....	2·40
Peculiar resin	0·50
Peculiar tannin	17·20
Woody fibre	75·20
Malate of potash, and chloride	
of potassium.....	2·10
Malate of lime	4·20
	101·90

The most important constituents are the nauseous, bitter, somewhat narcotic, extrac-

tive, and the substance called above *peculiar tannin*, which precipitates the acetate of iron greyish green, the sulphate greenish grey, gelatine pale brown, and nitrate of silver red.

Physiological effects.—The physiological effects of this root have not been accurately determined; but the observations hitherto made shew the effects to be those of a local irritant (or acrid) and narcotic substance.

In the *ordinary dose* (one or two drachms for adults) it has very little sensible effect on the system, though it may act efficaciously as an anthelmintic.—In *larger doses* it appears to operate as an irritant to the gastro-intestinal canal, and gives rise to purging and sometimes to vomiting, though its effects in this way are very uncertain.—In *poisonous doses* it operates as a cerebro-spinant or narcotic, giving rise to “vertigo, dimness of vision, dilated pupils, spasms of the facial muscles, and sometimes even to general convulsions. Spasmodic movements of the eyelids have been observed among the most common attendants of its narcotic action. The death of two children, who expired in convulsions, was attributed by Dr. Chalmers to the influence of spigelia. The narcotic effects are said to be less apt to occur when the medicine purges, and to be altogether obviated by combining it with cathartics. The danger from its employment cannot be great, as it is in very general use in the United States, both in regular and domestic practice, and we never hear at present of serious consequences. Its effects upon the nervous system have been erroneously conjectured to depend on other roots sometimes mixed with the genuine.”—(Wood and Bache.)

Use.—Its principal or sole use now is against worms. In the United States it stands at the head of anthelmintics. For this purpose it is given either in substance or infusion, combined with or followed by the use of cathartics (usually senna or calomel.)

Administration.—The dose of the powder for a child of three or four years old is from 10 to 20 grains: for an adult, one to two drachms. This quantity is repeated, morning and evening, for several days, and then followed by a brisk cathartic. It is frequently combined with calomel.

The *infusion* of the United States Pharmacopœia is prepared by digesting half an ounce of the root in a pint of boiling water. The dose for a child of two or three years old is half a fluid ounce to one fluid ounce: for an adult, from four to eight fluid ounces, repeated morning and evening. A quantity of senna, equal to that of the spigelia, is usually added, to insure a cathartic effect.

A preparation kept in the shops of the United States, and much prescribed by physicians, under the name of *worm tea*, consists of spigelia root, senna, manna, and savine, mixed together in various proportions to suit the views of different individuals.

I am indebted for much of the above information to the valuable “*Dispensatory of the United States*” of Drs. Wood and Bache.

Spigelia anthelmia.

The anthelmintic effects of this species of spigelia were noticed by Dr. Browne in the *Gentleman's Magazine* for the year 1751.

It is a native of South America and the West India Islands. Its action is similar to that of the last mentioned species. So poisonous has it been regarded, that in France it is called *Brinvillière*, after the Marchioness de Brinvilliers, a woman famous for poisoning in the reign of Louis XIV., and who was executed on the 16th of July, 1676.

SALICACEÆ.

In this family we have to notice one genus only—namely,

Salix.

The willow was employed in medicine by the ancients, on account of its astringent properties. For a long series of years it fell into disuse, but was brought into notice in 1763 by the Rev. E. Stone, who published a paper on the efficacy of the bark of the *Salix alba*, as a remedy for agues. In 1825 it acquired additional interest, in consequence of the discovery, by Fontana, of a new principle in it, which he termed *salicine*, and which subsequently has been found to be an efficacious substitute for sulphate of quinia.

Sprengel, in his *Systema Vegetabilium*, enumerates one hundred and fifteen species of salix; and Sir J. E. Smith mentions no less than sixty-four which are natives of this country. As all of these are not equally efficacious in a medicinal point of view, it is of some importance to point out those species which are the most powerful and serviceable to the medical practitioner. Unfortunately, this is not readily done, in consequence of the great discrepancy in the opinions of those who ought to be the best informed thereon. I believe the best practical rule to follow is this—select those willows whose barks are the most intensely bitter.

The *Salix alba*, the *Huntingdon*, or *common white Lincolnshire Swallow Willow*, the species recommended by Mr. Stone in 1763, is one of the officinal species of the Dublin and United States Pharmacopœias. Its characters are—“leaves elliptic-lanceolate, pointed, serrated, silky on both sides; the lowest serratures glandular. Stamens

hairy. Germen smooth, almost sessile. Stigmas deeply cloven; scales rounded." Its bark is the *cortex salignum*, or *cortex anglicanum* of some writers.



FIG. 196.—*Salix alba*.

The *Salix Russelliana*, or the *Bedford willow*, contains a large quantity of astringent matter, and is, therefore, regarded by some as the most serviceable species. Its specific characters are as follows—"leaves lanceolate, tapering at each end, serrated throughout, very smooth. Footstalks glandular, or leafy. Germen tapering, stalked, longer than the scales. Style as long as the stigmas."



FIG. 197.—*Salix Russelliana*.

The *Salix fragilis*, or *Crack Willow*, has gained some repute in medicine, and is one of the officinal species in the Dublin and Prussian Pharmacopœias; but Sir J. E. Smith says that whatever economical or medicinal uses have been attributed to it, belong to the *S. Russelliana*, which has very generally been mistaken for it.

Salix caprea, or the *great round-leaved willow*, has also been used in medicine. It is the third officinal species of the Dub-

lin Pharmacopœia, and was contained also in the former edition (for 1824) of the London Pharmacopœia.

Salix pentandra is officinal in the Prussian Pharmacopœia, and is preferred to all other species by Nees von Esenbeck. Its bark is the *cortex salicis laureæ* of some pharmacologists.

Linneanists, for the most part, place the genus *Salix* in class *Diœcia*, order *Diandria*; but Sprengel has inserted it in class *Dian-dria*, order *Monogynia*. The number of stamina is not the same in all the species, varying from one to five.

Pelletier and Caventou analyzed the bark of *Salix alba*, and obtained the following results:—

1. Yellow slightly bitter colouring matter.
2. Green fatty matter, similar to that found in cinchona.
3. Wax.
4. Tannin.
5. Red-brown substance, very slightly soluble in water, more readily in alcohol (resinous extract).
6. Gum.
7. Woody fibre.
8. A magnesian salt, containing an organic acid.

These celebrated chemists failed to procure the most important constituent of the willow barks, *salicine*, which I presume must have been contained in their yellow bitter colouring matter.

The *tannin* of willow bark is that modification which forms a green colour with the salts of iron. The quantity contained in willow bark is thus stated by Sir H. Davy:—

In 480lbs. of entire bark of the Leicester willow (*Salix Russelliana*) 33lbs.

Ditto common willow, large (*Salix* — ?) 11lbs.

The *resinous extract* of Pelletier and Caventou's analysis is probably identical with the *corticine* of Braconnot.

Salicine. — This crystalline proximate principle has been discovered in various species of *Salix*, and also in the bark of some *Poplars*, especially the trembling Poplar (*Populus tremula*), in which it exists mixed with another analogous substance termed *populine*.

Salicine occurs in small crystalline plates, or in right quadrangular prisms. It is white, very bitter, and soluble in alcohol and in 20 parts of water at ordinary temperatures, but in less than this quantity of boiling water. It is insoluble in æther and the volatile oils. It fuses at about 212° F., and in cooling crystallizes.

It is composed, according to MM. Gay-Lussac and Pelouze, of—

Carbon	55.084 or 2 atoms.....	= 12
Hydrogen	8.983 or 2 atoms.....	= 2
Oxygen	35.933 or 1 atom	= 8
<hr/>		<hr/>
100.000		22

Leroux supposed salicine to be an organic alkali, for it dissolves better in the dilute acids than in simple water, and the alkalies precipitate it from its solutions unaltered; but hitherto no definite compound of salicine and an acid has been obtained, and its alkaline properties, therefore, are not admitted.

Sulphuric acid dissolves and reddens salicine. When this reddened solution is exposed to the air, it attracts water and deposits a red powder, which Braconnot has called *rutiline*. Sulphuric acid equally reddens some other vegetable principles, as populine, columbine, &c.

The known tonic qualities of willow bark and the bitter taste of salicine, would *à priori* lead us to believe that this principle would rank with the simple tonics; and the correctness of this inference experience has fully confirmed. It excites the appetite, promotes digestion, and is efficacious in the same diseases that sulphate of quinia has been found beneficial in: indeed, it has been said to possess some advantages over the latter. Thus large doses of it are not so apt to produce a feeling of heat in the stomach as the salt just mentioned.

It has been principally employed in intermittent diseases, but it is adapted to any cases requiring tonics. It may be given in substance, or dissolved in water. In the form of *powder*, mixed with sugar, it may be administered in doses of six or eight grains. Magendie says it is not necessary to give more than 12 grains in the twenty-four hours. I should, however, observe, that much larger doses than this have been recommended. Miguel fixed the daily quantity at from 20 to 50 grains; Bally has given as much as 200 grains! In dyspeptic cases it may be taken dissolved in some aromatic water. Blom recommends it in combination with the extract of elecampane.

Physiological effects of Willow bark.—Willow bark is an astringent tonic.

Uses.—It has been employed externally as an astringent wash,—internally as a substitute for cinchona in intermittent diseases, chronic atonic disorders of the alimentary canal, and as an anthelmintic.

Administration.—The dose of it in *substance* is half a drachm or a drachm; but the usual mode of administering willow bark is in the form of *infusion* or *decoction*.

ZYGOPHYLLACEÆ.

In this family we have to notice the

Guaiacum officinale.

History.—The Spaniards derived their knowledge of the medical uses of Guaiacum from the natives of St. Domingo, and introduced this remedy into Europe in the early part of the sixteenth century (about 1508). The first importer of it was Gonsalvo Ferrand, who, being infected with the venereal disease, and not obtaining any cure for it in Europe, went to the West Indies to ascertain how the natives in that part of the world treated themselves, as the disease was as common with them as small pox with Europeans. Having ascertained that Guaiacum was employed, he returned to Spain, and commenced practitioner himself. "I suppose," says Freind, from whom I take the anecdote, "he might make a monopoly of it; for it appears that some time after it was sold for seven gold crowns a pound."

Botany.—The *Guaiacum officinale* is a native of St. Domingo and Jamaica, and attains a height of about 40 feet.

The stem is commonly crooked, and consists of a very hard and heavy wood, covered by furrowed bark. The evergreen leaves consist of two, rarely of three, pairs of obovate, oval, or obtuse leaflets. The flowers grow (from six to ten together) in the axillæ of the upper leaves; the peduncles are about an inch, or an inch and a half long, and are unifloral; the calyx consists of five oval sepals; the corolla is composed of five wedge-shaped, pale-blue petals; the stamina are somewhat shorter than the petals; the ovary is compressed and two-celled, and terminates in a short pointed style; the fruit is an obovate, coriaceous, yellow capsule.

This plant belongs to class *Decandria*, order *Monogynia*, in the Linnean classification.

Officinal.—In this country the *wood* and *resin* only are officinal; but on the continent the *bark* is also used. They are imported from St. Domingo.

1. *Cortex Guaiaci.*—Guaiacum bark is grey, compact, very hard, heavy, and resinous. Its internal surface sometimes presents numerous, small, brilliant, apparently crystalline points, which Guibourt supposes to be benzoic acid, but which Richard thinks are resin produced by the *vasa propria*, which exist in larger quantity in the bark than in the wood, for he has observed the same in the fractured surface of the bark. Trommsdorf ana-

lysed this bark, and obtained the following results:—

Peculiar resin, different from that found in the wood	2·3
Peculiar bitter piquant extractive, precipitable by acids	4·8
Gum	0·8
Brownish yellow colouring matter	4·1
Mucous extractive, with sulphate of lime	12·0
Woody fibre	76·0
	<hr/>
	100·0

2. *Lignum Guaiaci*.—This is the *Lignum vitæ* of the shops. It is imported in large logs or billets, covered with their bark, and is extensively used for making pestles, rulers, skittle-balls, and various other articles of turnery ware. On examining the transverse sections of these stems, hardly any traces of medulla or pith are observable, while the annual or concentric layers or zones are extremely indistinct. The wood is remarkable, says Dr. Lindley, “for the direction of its fibres, each layer of which crosses the preceding diagonally; a circumstance first pointed out to me by Professor Voigt.” The distinction between the young and the old wood is very remarkable. The young wood (called *alburnum* or *sapwood*) is of a pale yellow colour; while the old wood (called *duramen* or *heartwood*) which forms the central and principal part of the stem, is of a greenish brown colour, in consequence of the deposition of resinous matter, first in the ducts and subsequently in all parts of the tissue. By boiling a thin shaving of the wood in nitric acid, the whole of the deposited matter is destroyed, and the tissue restored to its original colourless character.

Trommsdorf analyzed the wood, and obtained the following results:—

Guaiacum resin	26·0
Bitter, piquant extractive	0·8
Mucous extractive, with a vegetable salt of lime	2·8
Colouring matter (?) similar to that of the bark	1·0
Woody fibre	69·4
	<hr/>
	100·0

Shavings or raspings of this wood (*lignum Guaiaci raspatum*, seu *rasi*; vel *rasura*, seu *scobs Guaiaci*) are prepared for the use of druggists or apothecaries by turners. They are distinguished from the raspings of other woods by nitric acid, which communicates a bluish-green colour (but which is not permanent) to those of guaiacum. The decoction of these shavings is yellowish; it does not change its colour in the air,

and very little even by nitric acid, though after some time it becomes turbid. Neither a solution of emetic tartar nor the tincture of galls cause any precipitate. The ferruginous salts deepen its colour.

3. *Resina Guaiaci*.—The resin of guaiacum, or *guaiacum*, as it is commonly termed, is obtained from the stem of the tree by various methods.

a. *By natural exudation*.—It exudes naturally from the tree in the form of round or oval tears, which are improperly called *native gum guaiacum*, since they contain no gum.

b. *By jagging*.—If the tree be wounded in different parts, a copious exudation takes place from the wounds, which hardens by exposure to the sun. This operation is performed in May.

c. *By heat*.—Another method of obtaining it is the following:—“The trunk and larger limbs being sawn into billets of about three feet long, an auger hole is bored lengthwise in each, and one end of the billet so placed on a fire that a calabash may receive the melted resin which runs through the hole as the wood burns.”—(Wright.)

d. *By boiling*.—It is also obtained in small quantities by boiling chips or sawings of the wood in water with common salt. The resin swims at the top, and may be skimmed off. The salt is used to raise the boiling point of the water.

Physical properties and varieties.—I have met with guaiacum in commerce under two forms:—

1. *Guaiacum in tears*: *Guaiacum in lachrymis*.—This variety occurs in rounded or oval tears, of varying size, some being larger than a walnut. Externally they are covered by a greyish dust. Professor Guibourt says they are the produce of *Guaiacum sanctum*.

2. *Guaiacum in masses*: *Guaiacum in massis*.—This is the usual form in which we meet with guaiacum in the shops. These masses are of considerable size, and are ordinarily mixed with pieces of bark, wood, and other impurities; they are of a brownish, or greenish brown colour, and have a brilliant, shiny, resinous fracture. Thin laminae are nearly transparent, and have a yellowish green colour. The odour is balsamic, but very slight, though becoming more sensible by pulverization. When chewed, guaiacum softens under the teeth, but has scarcely any taste, though it leaves a burning sensation in the throat. Its specific gravity is 1·2289.

Chemical properties.—Water dissolves only the extractive, which constitutes about nine per cent. of the guaiacum of the shops. Alcohol readily dissolves the resin: the brown solution thus obtained is

precipitated by water, by sulphuric and hydrochloric acids, and by chlorine. Nitric acid at first produces no obvious effect on the solution; but after some hours it alters the colour to green, then blue, and afterwards to brown, and forms then a brown precipitate. If a piece of paper moistened with the tincture of guaiacum be exposed to the fumes of nitric acid, the colour is immediately changed to blue. Æther dissolves the resin, but not so readily as alcohol.

Guaiacum resin possesses electro-negative or acid properties, and might, therefore, without impropriety be termed *guaiacic acid*, just as the terms pinic, sylvic, and copaivic acids are applied to resinous substances. Thus a caustic alkaline solution dissolves guaiacum, forming what has been called a *guaiacum soap* (*sapo guaiacinus*), or, as I should term it, an alkaline guaiacate. The sulphuric, hydrochloric, and nitric acids, cause precipitates with this solution. Various salts also precipitate it, as acetate of baryta, acetate of lime, acetate of lead, nitrate of silver, and chloride of gold; the precipitates being, I presume, *guaiacates* of the respective metals.

When heated it melts, and evolves a fragrant odour. The products of the destructive distillation of guaiacum have been examined by both Mr. Brande and Unverdorben. Among the new products obtained by the latter may be mentioned two *empyreumatic oils of guaiacum* (one volatile, the other fixed), and *pyro-guaiacic acid*.

Guaiacum is remarkable for the changes of colour it undergoes by the influence of various agents. Thus guaiacum powder, and paper moistened with tincture of guaiacum, become *green* in air or oxygen gas, but not in carbonic acid gas. This change, which seems connected with the absorption of oxygen, is influenced by the intensity and colour of the light. Various substances give a *blue* tint to guaiacum when in contact with air: thus gluten (or rather the *zymome* contained in gluten) has this effect, but not starch. Hence powdered guaiacum has been proposed as a test of the goodness of wheaten flour (which contains gluten), and of the purity of starch. Gum Arabic, dissolved in cold water, has the same effect as gluten, but, most remarkable, tragacanth gum has not. Milk, and various fresh roots and underground stems (for example, those of the horseradish, potato, carrot, colchicum, &c.), also possess this property. Certain agents change the colour of guaiacum successively to *green*, *blue*, and *brown*: thus, nitric acid and chlorine. Mr. Brande has conjectured, and I think with great probability, that these different

coloured compounds are combinations of oxygen with guaiacum,—the green compound containing the least, the brown the most, while the blue is intermediate. Pagenstecher, of Berne, has proposed newly prepared tincture of guaiacum wood, with a few drops of hydrocyanic acid, as a test for the presence of copper; an intense blue colour being immediately developed when this metal is present.

Composition.—Guaiacum resin was analysed by Mr. Brande in 1805, by Bucholz in 1806, and by Buchner in 1828. Here are the results according to the first and last of these chemists:—

Brande's Analysis.

Substance sui generis (<i>Guaiacum</i>) properly so called)	91
Extractive	9
	<hr/> 100

Buchner's Analysis.

Pure resin	79.8
Bark, 20.2—	
consisting of { Woody fibre	16.5
{ Tasteless gum	1.5
{ Brown acid ex- tractive	2.1
	<hr/> 99.9

According to Unverdorben, the resin of guaiacum is of two kinds: one readily soluble in solution of ammonia, and a second, which forms with ammonia a tarry compound.

The ultimate analysis of guaiacum has hitherto been made by Dr. Ure only. It is as follows:—

Carbon	67.88
Hydrogen	7.05
Oxygen	25.07
	<hr/> 100.00

Nature of Guaiacum.—Guaiacum agrees with the resins in many respects, but differs principally in the remarkable alteration of colour which it undergoes by the influence of various agents. Some chemists have regarded this as a sufficient ground for isolating it from the resins, and it has by them been termed a *substance sui generis*,—*Guaiacum*,—*Guaiacin*. But as the guaiacum of commerce usually contains some extractive, these terms are certainly not applicable to it, though they may be to the resinous portion: and some authors, therefore, have called it an *extracto-resin*. Buchner's view of it is, however, the most correct, and that which is now usually entertained: according to this chemist, guaiacum is considered to be essentially a *resin*, mechanically mixed with a minute portion of extractive and other impurities. Its peculiar or characteristic properties, there-

fore, are considered to be only sufficient to make it a distinct species of resin; not to constitute it a separate genus.

Adulteration.—In this country guaiacum is, I believe, never met with in the adulterated state. But in other parts of the world it is said to be sometimes mixed with colophony (black or fiddler's rosin.) One mode of recognising the fraud is this: mix the alcoholic solution of guaiacum with water, and to the milky liquid thus formed add a solution of caustic potash, until the mixture become clear: if now an excess of potash produce no precipitate, no colophony is present. The theory of this is, that guaiacum-soap (that is, the compound of guaiacum resin and the alkali) is soluble in a solution of alkali, whereas colophony-soap (the compound of colophony and alkali) is not.

Physiological effects of the resin.—Guaiacum is an acrid stimulant. Vogt, in his classification of the *Materia Medica*, has placed it with hellebore, asarabacca, euphorbium, and other powerful local agents, in his division of *acrid substances*. But I think he is scarcely warranted in this: for though possessing acridity, guaiacum is not to be compared, in this respect, with the substances among which he has placed it, several of which are poisonous agents. Moreover, the most acrid part of guaiacum is the extractive which resides in the small fragments of bark, &c. mechanically mixed with, and which, therefore, are not essential to, the resin.

Under the use of *small and repeated doses* of guaiacum, various constitutional diseases sometimes gradually subside, and a healthy condition of system is brought about with no other sensible effect of the remedy than perhaps the production of some dyspeptic symptoms, or a slight tendency to increased secretion. We designate this inexplicable, though not less certain, influence over the system, by the term *alterative*.

When we give guaiacum in *moderately large doses*, or to plethoric or easily-excited individuals, we observe the combined operation of an acrid and stimulant. The local symptoms are, the dryness of the mouth, the sensation of heat at the stomach, nausea, loss of appetite, and perhaps a relaxed condition of bowels, though not unfrequently there is constipation. The stimulant operation is to be observed principally in the secreting organs, especially in the skin or the kidneys. Thus, when diluents are exhibited, and the skin kept warm, guaiacum acts as a powerful sudorific; whereas, when the surface is made cold, perspiration is checked, and diuresis promoted.

Guaiacum has been supposed to be

a specific stimulant to the abdominal and pelvic circulations, and thereby to promote the hæmorrhoidal and menstrual discharges. But though I have frequently and extensively used this remedy, I never had reason to believe the opinion just mentioned to be correct.

Very large doses of guaiacum occasion heat and burning in the throat and stomach, vomiting, purging, pyrexia, headache, &c.

Effects of guaiacum wood.—The operation of the wood is similar to, though milder than, that of the resin.

Pearson says that the decoction excites a sensation of warmth in the stomach, produces dryness of the mouth, with thirst, increases the natural temperature of the skin, renders the pulse more frequent, and, if the patient lie in bed and take the decoction warm, it proves moderately sudorific; but if he be exposed freely to the air, it acts as a diuretic. Continued use occasions heartburn, flatulence, and costiveness. Kraus mentions a measles-like eruption over the whole body, as being produced by large doses of the wood.

Effects of the bark.—The bark acts in a similar way to the wood. Regnandot injected at eight in the morning three ounces of an aqueous infusion of it into the veins of a young man of twenty years of age. In half an hour a shivering fit came on, with colicky pains, followed by two stools; this shivering remained till five o'clock in the evening.

Uses.—In employing guaiacum you must bear in mind its acrid and stimulant properties. The first unfits it for use, in cases of impaired digestion, where there is irritation or great susceptibility of, or inflammatory tendency in, the alimentary canal: the second renders it improper in plethoric individuals, in all states of excitement, or acute inflammation, and in persons whose vascular system is easily excited, and who are disposed to hæmorrhages. It is admissible and useful, on the other hand, in atonic or chronic forms of disease, with retained secretions, especially in relaxed and phlegmatic constitutions.

The following are some of the diseases in which it has been employed:—

1. *In chronic rheumatism*, especially when occurring in scrofulous subjects, or in persons affected with venereal diseases, guaiacum may be administered with considerable advantage under the conditions before mentioned. In cases of great debility the ammoniated tincture is employed.

2. *In gout.*—As a preventive of gout it was introduced by Mr. Emerigon, of Martinico. His remedy (the *specificum antipodagricum Emerigonis*, as our German

brethren term it,) consisted of two ounces of guaiacum digested for eight days in three lbs. avoirdupoise of rum. The dose was a table spoonful, taken every morning for a twelvemonth. I need hardly tell you, its stimulant qualities render it inadmissible during a paroxysm of gout; and with regard to its use in the interval, it is, of course, only admissible in chronic atonic conditions. I do not believe in its supposed preventive powers.

3. *In chronic skin diseases*, where sudorifics and stimulants are indicated, guaiacum may be serviceable, especially in scrofulous and syphilitic subjects.

4. *In obstructed and painful menstruation* not arising from any plethoric, inflammatory, or congested state of system, the volatile tincture of guaiacum has been employed with advantage.

5. *As a remedy for venereal diseases*, guaiacum was at one time in the greatest repute. Nicholas Pott tells us that within nine years from the time of its introduction into Europe, more than 3000 persons had derived permanent benefit from its use. Experience, however, has taught us the true value of this remedy, and we now know it has no specific powers of curing or alleviating syphilis. We are, therefore, astonished at the wonderful reports which have been published of its real or fancied successful employment, and are quite unable to explain what can have given rise to them. When used now, it is principally as a sudorific in syphilitic rheumatism, and in venereal eruptions; or as an alterative after the use of a mercurial course.

6. *In scrofula*, especially that form called cutaneous, guaiacum is used with occasional advantage.

Administration.—(a.) *Of the resin.*—Guaiacum resin may be given *in substance* to the extent of twenty or thirty grains at a dose. It may be administered in the form of bolus, or made up with gum, sugar, and some aromatic water, into the form of mixture, as the *mistura guaiaci* of the Pharmacopœia. Another form for administering it is the *tincture*, made with rectified spirit; the dose is from one to three fluid drachms. We have also the *ammoniated tincture*, prepared by digesting guaiacum in the aromatic spirit of ammonia. It is a powerful stimulant, and is given in doses of one or two fluid drachms in chronic rheumatism.

The resin enters into the composition of Plummer's pill (the *pilulæ hydrargyri chloridi compositæ* of the London Pharmacopœia), and the compound powder of aloes.

(b.) *Of the wood.*—The wood enters into

the composition of the compound decoction of sarsaparilla. The compound decoction of guaiacum retained in some Pharmacopœias is the old *decoction of the woods*. These preparations are of very little value as far as the guaiacum is concerned, since water can extract very little or nothing of the active principle of the wood.

EUPHORBIACEÆ.

This order, sometimes called *Tithymaloïdes*, corresponds very nearly with the *Tricoccæ* of Linneus. It contains, according to Dr. Lindley, 129 genera; one of which (*Euphorbia*) consists of between 200 and 300 species.

Its leading characteristic in a medical point of view is acidity. Most of the plants possess an acrid milky juice, which, when in contact with any living part, excites inflammation and its consequences. Thus, when applied to the skin, it produces inflammation, followed by vesicles, blebs, or pustules; when swallowed it vomits and purges, and in large doses often gives rise to fatal gastro-enteritis. In this family, therefore, are contained several of the most powerful acrid poisons. Some species possess also narcotic properties.

This acrid juice pervades various parts of the plants: in the stem it resides principally in the cortical portion. "M. Berthollet has recorded a remarkable instance of the harmless quality of the sap in the interior of a plant, whose bark is filled with a milky proper juice of a poisonous nature. He describes the natives of Teneriffe as being in the habit of removing the bark from the *Euphorbia canariensis*, and then sucking the inner portion of the stem in order to quench their thirst, this part containing a considerable quantity of limpid and non-elaborated sap." (*Henslow's Botany*, p. 217.)

The milkiness of the juice depends, in some cases, on caoutchouc,—in others on resin, wax, oil, &c. The acrid principle is not the same in all euphorbiaceous plants. In some it is volatile: thus the seeds of *Croton Tiglium* yield a very volatile, acrid, fatty acid, called *crotonic acid*: manchineel also contains a volatile acrid principle (query, acid or oil?) The volatility of the acrid principle explains why some Euphorbiaceæ become harmless or esculent by roasting. In some, however, it is fixed: thus the acidity of the substance, known in commerce by the improper name of gum euphorbium, depends on the presence of a non-volatile solid resin.

Some euphorbiaceous plants are devoid

of acridity, or possess it in a very slight degree only. Von Buch says the branches of *Euphorbia balsamifera* contain a mild sweet juice, which is eaten by the inhabitants of the Canary Isles. The aromatic tonic bark of the *Croton Cascarilla* is another exception to the very general acridity of euphorbiaceous plants.

Some of the Euphorbiaceæ are succulent plants; that is, their stems are thick and fleshy, owing to the enormous development of their cellular tissue, while the leaves are abortive, or are imperfectly developed. As illustrations, I may mention *E. officinarum*, *E. antiquorum* (fig. 200), and *E. meloformis* (fig. 198).



FIG. 198.—*Euphorbia meloformis*.

These succulent Euphorbiaceæ, when not in flower, have a considerable resemblance to Cactaceæ (fig. 199).



FIG. 199.—*Opuntia vulgaris*.

The acrid milky juice of Euphorbiaceæ will frequently distinguish them, but it also exists in the genus *Mammillaria* (of the family Cactaceæ).

Euphorbia officinarum.

History.—The saline waxy-resin, called in the shops gum euphorbium, is said both by Dioscorides and Pliny to have

been first discovered in the time of Juba, king of Mauritania—that is, about, or a few years before, the commencement of the Christian era. Pliny says that Juba called it after his physician, Euphorbus, and that he wrote a volume concerning it, which was extant in Pliny's time. Salmasius, however, says that this resin is mentioned by Meleager the poet, who lived some time before Juba.

Botany.—Euphorbium is imported into this country from Mogadore, and, according to Mr. Jackson, is the produce of a succulent species of *Euphorbia*, called by the Arabs *Dergmuse*, growing on the Atlas mountains. It appears to be identical with the plant described and figured by Bruce.

The *Dergmuse* figured by Jackson is very analogous to, though not identical with, the *Euphorbia officinarum* of Decandolle. Whether it is to be regarded as a variety only of, or a distinct species from, the latter plant, I cannot undertake to decide, though I incline to the latter opinion. Mr. Jackson's account of the plant is this:—Its stem is at first soft and succulent, but after some years becomes hard; the branches "are scoloped, and have on their sides small knots, from which grow five extremely sharp-pointed thorns, about one-third of an inch in length;" the branchlets bear each on its top a vivid crimson flower. The general form of the plant with its branches is that of a goblet.



FIG. 200.—*Euphorbia antiquorum*.

The *Euphorbia antiquorum* (fig. 200) is said by some to yield euphorbium; but both Hamilton and Royle deny that it does so, in India at least.

Euphorbia canariensis is also said to yield it in the Canary Isles; but I have never met with any from this part of the world, though Martius says that the Euphorbium which comes into commerce by the way of England is obtained from this plant. He is on this point certainly in error, as all our Euphorbium comes from Mogadore.

CLINICAL LECTURES,

DELIVERED AT

SIR PATRICK DUN'S HOSPITAL,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE XVIII.

Dropsy following Scarlatina ; utility of Bleeding — Albuminous Urine not necessarily the result of diseased kidney — Pulmonary Affection after Fever ; Smilax Aspera — Phlegmasia Dolens not dependent on phlebitis ; Treatment — Case of Metritis — Melæna ; various kinds of black discharge from the bowels ; green stools not always a sign of deranged liver.

GENTLEMEN,—The case of William Young, who was admitted on Wednesday last, has some claims to your attention, and demands a few observations on my part. This boy, who is about twelve years of age, had an attack of scarlatina some time ago, and had been dropsical for a week or ten days at the period of his admission. He was somewhat feverish, had thirst, heat of skin, and slight headache, cough, and difficulty of breathing, and on making an examination with the stethoscope, we detected numerous bronchial râles; his lower extremities were anasaruous, and he had some effusion into the peritoneal sac. We could not ascertain exactly the time when this train of symptoms commenced, but it is very probable that it was a week or ten days after the disappearance of scarlatina. When patients who have been recently labouring under an attack of scarlatina, take cold, the anasaruous symptoms appear in a very short time after the attack; but even where they are not exposed to cold, the dropsy appears generally about ten days or a fortnight after scarlatina, and is very often accompanied by some pectoral affection. The disease sets in with febrile exacerbations more or less marked; anasarca of the extremities is next noticed, and at the same time the patient has slight cough and difficulty of breathing, which generally proceeds from congestion of the bronchial mucous membrane, but may be the result (though less frequently) of pleuritis or pneumonia.

If called to a case of this kind in the commencement, and where the patient is not greatly exhausted by previous disease, the treatment is exceedingly simple. By opening a vein in the arm, and abstracting a quantity of blood proportioned to the age and strength of the patient, you re-

move the inflammatory state of the constitution, and arrest at once the anasaruous and pectoral symptoms. It may occasionally happen that active measures of this kind cannot be taken in consequence of the great debility of the patient from previous disease; but, generally speaking, cases of anasarca after scarlatina bear antiphlogistic treatment well. It is not after cases of violent scarlatina, or where the patient's life has been in eminent danger, that the supervention of dropsy is most commonly observed; the majority of dropsical cases of this kind are met with in patients who have had the disease mildly, and without any remarkable intensity either of the local or general symptoms. Hence, venesection is borne well, and its performance attended by the most decided good effects, particularly where the dropsy is complicated with pleuritis or pneumonia.

In the case before us, however, being uncertain as to the exact duration of the disease, and finding several symptoms present indicative of weakness, we were obliged to proceed with more caution. The boy had been ill a week, and appeared to be under the influence of digitalis administered before his admission, for his pulse was intermittent and wavering. Under these circumstances I determined to limit the antiphlogistic measures to the application of a few leeches over the abdomen. I did this with less hesitation, as an accurate examination of the chest shewed that there was neither pleuritis or pneumonia present. The internal remedies were calculated to increase the secretion from the kidneys. The boy's urine was remarkably albuminous, and of the specific gravity of 1027. This is a point worthy of remark. In many cases of dropsy after scarlatina, the urine is albuminous. Now, almost every case of this kind will get well, and as convalescence progresses, you will observe that the urine ceases to be albuminous. These facts, of the truth of which I can speak with the fullest confidence, are quite sufficient to shew that those persons are wrong who assert that albuminous urine is the result of organic disease of the kidneys. Albuminous urine is here, as Dr. Blackall observes, merely an indication of a peculiar inflammatory condition of the whole system, and not of degeneration of the kidneys. I may observe, however, that this is not always the case; for I could point out examples where albuminous urine is connected with an apparently opposite condition of the system; in fact, a condition demanding the use of a generous diet and tonics. Hence, there must be great

diversity in the treatment of dropsy with albuminous urine. Where it occurs after scarlatina, and is accompanied by febrile symptoms it is best treated by the lancet, nitre, purgatives, and digitalis; but where it occurs in chronic cases, without any remarkable excitement of the vascular system, without organic disease, and with more or less debility, it requires to be treated with tonics, generous diet, and full doses of opium. In the present case I only applied a few leeches to the belly, and kept the bowels gently open for the first few days, being determined to wait until the pulse became regular before I ventured on any decided plan of treatment. I then ordered mercurial frictions to the abdomen and axillæ, and gave mercury internally combined with small quantities of digitalis. He also got a draught twice a day composed of carbonate soda, tincture of squill, and syrup of orange peel. These remedies we shall continue for some time, carefully watching their effects.

From the state of weakness this boy was in at the period of his admission, and the length of time the disease has lasted, I have not thought it advisable to bleed him*. When cases of this kind become chronic, they are very difficult of cure, and require very delicate management. You will frequently have to run through the whole list of remedies employed on such occasions, before you can hit on one that proves successful. I recollect a case of this kind, in which the anasarca was extreme, and the boy's legs were enormously swollen; the dropsy was accompanied by scanty secretion of urine, but without any distinct febrile excitement. After having used every remedy I could think of, for nearly three months, without any benefit, I resolved to try the effects of cold affusion,

from which I had experienced much advantage some time previously in another case. I ordered a large vessel filled with pump water, in which a quantity of salt had been dissolved, to be poured over him twice a day, for the space of two or three minutes each time, immediately after which the boy was wiped perfectly dry and put to bed. The good effects of this measure became soon evident; a copious discharge of urine took place, the swelling of the limbs subsided, and in six or seven days the child was able to run about as usual.

Allow me to refer briefly to the case of Garret Kane, of which I have spoken on a former occasion. You are aware that this man, after an attack of fever, had symptoms of tubercular deposition in the upper part of the left lung. From the circumstances, however, of the other lung being perfectly sound, there being no fever or vascular excitement present, and the small extent of the disease, as well as the patient's youth and the season of the year, we were led to hope that we might be able to arrest the morbid process going on in the lung. After freely leeching the chest, we inserted a seton under the clavicle, and gave such remedies as are calculated to relieve cough and pulmonary irritation. We first gave the cyanuret of potash, from which he derived some benefit, but for the last week we have been giving a drachm of the syrup of smilax aspera in an ounce of water, three times a day. This remedy, which has been lately introduced into practice, possesses many of the properties of sarsaparilla, in addition to which it appears to contain a small portion of prussic acid, as denoted by its smell, which closely resembles that of laurel water. It has been very highly spoken of, and I believe it to be an excellent remedy, but, as in all cases of new medicines, I fear its powers are somewhat overrated. That it will fail in some cases I am quite convinced, for in the case of a gentleman in Mount Street, whose symptoms were chronic bronchitis, with violent and harassing cough, and who had been blooded, cupped, and used various internal remedies, I gave it a fair trial, and found that it did not produce any alleviation whatever of his symptoms.

Let me now direct your attention to the case of Rebecca Howard, who came into hospital on the first of this month, eight days after her accouchement, with painful swelling of both lower extremities. From the history of her case it appears, that three or four days after her confinement, she got severe pain about the heel and inner ankle, accompanied by swelling,

* This case went on unfavourably, and the boy died, after lingering several weeks, in a state of extreme dropsical swelling and great suffering, distension, and dyspnœa. As his urine continued highly albuminous throughout, we were excessively curious to learn what was the condition of his kidneys. The post-mortem examination was made a few hours after death, and the kidneys were found in every respect healthy; their size, shape, consistence, and colour, were perfectly normal. So striking an exception to their general rule ought to shake the confidence of those who assert that albuminous urine results from Bright's kidney. The long-continued presence of albuminous urine, in a case where no such state of kidney existed, forms conclusive evidence that this state of urine is not necessarily the result of that renal degeneration to which it is referred by Dr. Bright; the occurrence of one positive exception is sufficient to disprove such a conclusion, even though supported by a thousand cases, and consequently, when albuminous urine in chronic dropsy is found to occur along with Bright's kidney, I consider this particular state of urine and of kidney as depending upon different causes, which often coexist in chronic dropsy, and consequently I regard albuminous urine as a sign of Bright's kidney, but not as its result.

which commencing about the same situation extended rapidly up the thigh as far as the groin. A similar swelling appeared likewise in the other limb, but instead of commencing below, it appeared first in the upper third of the thigh and afterwards spread downwards, attended with violent pain, apparently in the course of the great sciatic nerve. Along the course of the veins a number of hard cords, extremely tender to the touch, could be distinctly felt; the lymphatics, though somewhat tender also, did not seem to be so much engaged, and there was no inflammation of the glands of the groin.

Here we had a case of phlegmasia dolens, or in other words, painful inflammatory œdema of the lower extremities, involving the skin, subcutaneous cellular tissue, veins, and lymphatics, more or less distinctly. I have before stated to you my opinion, that this affection does not necessarily depend on phlebitis; on the contrary, I think that in the majority of cases the disease commences in the subcutaneous cellular tissue, and afterwards extends to the veins and lymphatics. Observe the course of the inflammation in both limbs. In one it commences in the vicinity of the inner ankle and extends up the thigh; in the other it is first observed in the upper part of the thigh, and spreads downwards. Now, where œdema is the consequence of phlebitis, or where it is artificially produced by tying or compressing one of the large venous trunks, it is always first observed in the lower part of the limb. You perceive, then, that those who explain the occurrence of phlegmasia dolens by referring it exclusively to phlebitis, are not able to account for it as commencing in the thigh and spreading downwards. But how much easier is the explanation, if we look upon it as a peculiar inflammation of the subcutaneous cellular membrane of the limb, involving in its progress, to a greater or lesser extent, the veins and lymphatics, and sometimes extending to the joints. From this view of the pathology of phlegmasia dolens, you can understand why the upper part of the thigh may become primarily affected, and that effusion may take place above before it occurs below.

So far with respect to the pathology of the diseases: now with regard to treatment. In attempting to remove this inflammation, we were obliged to keep clear of any measures calculated to increase constitutional debility. The woman, though young, was of a delicate constitution; and there is this peculiar difficulty in the treatment of diseases after parturition, that they occur at a time when the patient has been more or less debilitated by the efforts of labour and its conse-

quences. Our object, therefore, was to reduce the local inflammation, at the same time that we endeavoured to support the woman's strength by a light and nutritious, but not heating, diet. We commenced with the application of leeches, to the number of ten, along the inside of each limb; these we repeated to the same amount on the following day. In the application of leeches in cases of this kind, you must be guided by the circumstances of pain, tension, and swelling; these are sometimes greater in one portion of the limb than in another, most frequently in the course of the veins; but you should always take care to have them applied over those spots in which the inflammatory process seems to exist in greatest intensity. Our next step was to open her bowels by means of purgative injections, to be repeated as occasion required. In addition to this, I directed the limb to be gently rubbed with an ointment composed of one ounce of mercurial ointment, two ounces of lard, and three drachms of extract of belladonna. I have already dwelt so often on the local, antiphlogistic, and narcotic effects of this composition, that it is unnecessary for me to say any thing of it at present.

With respect to internal remedies, I ordered her to take five grains of Plummer's pill every night and morning; but as this produced griping and a tendency to diarrhœa, we were obliged to change it for hydrarg. c. cretâ, with Dover's powder. On the 24th (the fifth day of her treatment) her mouth became affected, and the pain along the sciatic nerve, as well as the general soreness of both extremities, decreased. I forgot to observe, that from the commencement we had given opiates freely; indeed, this was one of the principal parts of our treatment. She first took the liquor of the muriate of morphia, in doses of twenty drops, three times a day; this we exchanged for opiate injections, when her bowels became irritable under the use of Plummer's pill. On the 24th there was a considerable improvement in her symptoms, as I have already stated; but she was very weak; there was still considerable soreness of the extremities, and she complained of pain and tenderness in the right groin, shewing that the lymphatics as well as the veins were engaged. I ordered the opiate enema to be repeated, and allowed her the free use of chicken-broth, rice, and a small quantity of wine. On the 25th she was directed to take a pill containing half a grain of opium every third hour. Next day the report states that she finds herself much better, that her bowels are quite natural, that she feels no pain in the lower extremities, except when pressed or moved, and

that she has regained the power of her limbs. Two days afterwards she was able to stand, and at present she is so far recovered that I intend to dismiss her to-morrow.

The treatment of cases of this description involves some very curious and important considerations. With the exception of leeching, the treatment which we employed in this case cannot be called antiphlogistic; for throughout the whole course of the disease we gave opium freely, allowed her a nutritious diet, and after the first four or five days the use of wine. This shews that, in diseases called inflammatory, no general rule of treatment can be laid down, and that our practice must vary in the most remarkable manner, according to circumstances. Had I treated this inflammation by leeching, low diet, purgatives, and antimonials, it is very probable she would have sunk. But while we were endeavouring to subdue local inflammation by leeching and mercurial ointment, we supported the constitution by a proper diet, nourishing but not heating, and afterwards by the use of wine. At the same time we gave opium in free and repeated doses, with the view of diminishing pain and irritation, and procuring sleep,—a most important matter in the treatment of all acute affections combined with irritability. We also gave mercury internally, because it has been found extremely valuable in such cases, when given rather as an alterative than with the view of rapidly and violently affecting the system. Under this plan of treatment her convalescence has been very rapid. It is a plan abundantly simple, but one which I can recommend to you with confidence.

With respect to the after-treatment of this case, I have merely to observe, that as soon as the hyper-sensibility of the limbs became diminished, I ordered them to be rubbed diligently twice a day with warm olive oil. How this acts I cannot distinctly say; but it appears to diminish tension, to promote absorption, and to increase the pliability of the limbs. Latterly we have given up this, and had recourse to dry friction and bandages. At present she is taking, three times a day, a mild tonic draught, composed of tincture of orange peel, half a drachm; tincture of hops, twenty minims; carbonate of soda, five grains; water, an ounce.

Let me next turn your attention to the case of Esther Green, who was also admitted here shortly after her confinement. I may observe that our proximity to the Lying-in Hospital in Cumberland Street, under the care of Dr. Beatty, assisted by Dr. Montgomery, gives us an opportunity of witnessing many cases of female com-

plaints. This woman was delivered on the 5th of March, and dismissed about six days afterwards, apparently well. On the 29th, after having previously taken cold, she got symptoms of fever, accompanied by pain of the belly, chiefly affecting her in the hypogastric and right iliac regions. When she came in on the 31st, there was very little fever present, her pulse was slow and regular, and her skin cool; but she was pale and anxious, had general tenderness of belly, with griping diarrhœa and nausea, and complained still of considerable tenderness on pressure over the region of the uterus. Having consulted with Dr. Montgomery, we ascertained that the uterus was enlarged and painful. The case, then, was one of metritis, but not of a very acute character, and which had produced by sympathy a disturbance in the functions of the stomach and intestinal canal.

Eight leeches were applied over the region of the uterus, to be repeated daily, until the pain and tenderness were relieved. We next had recourse to the use of mercury; but as her bowels were in an irritable state, we prescribed the mildest of the mercurial preparations, Hydrarg. c. cretâ, and to this we added Dover's powder. Two scruples of the former to ten grains of the latter were divided into twelve pills, two to be taken every fourth hour. This combination is extremely valuable in many cases of inflammation of the viscera of the abdomen, particularly when accompanied by irritation of the intestinal mucous membrane, as manifested by griping and diarrhœa. After two days there was a slight fœtor of breath apparent, and we gave the pills twice a day instead of every fourth hour, as our object was to affect the system gently, and not bring on profuse salivation. These remedies, with the use of blisters over the region of the uterus, will be quite sufficient to remove the disease. The metritis is not very acute, nor has it any thing of a specific character; there is no puriform or other morbid discharge from the vagina, and the patient is a young woman of good constitution*.

A patient who is at present in the chronic ward presents some circumstances worthy of observation, as connected with peculiar varieties in the alvine discharge. She has been labouring for some time under melæna, and, as you have observed, passes daily a large quantity of dejections from her bowels, as black as ink. The colour of matters discharged from the bowels is subject to very great variety. In some cases they are clay-coloured or whit-

* This patient speedily and perfectly recovered.

ish, somewhat like barm; and I have seen them still whiter, and approaching the hue of milk. It is in cases of the latter kind, where the discharges are of a milky appearance, that persons have been said to pass chyle, and their emaciation has been attributed to a deficiency of nutriment depending on this cause. This, however, is not the fact: in some cases of chronic dysentery and diarrhoea, a fluid-whitish discharge takes place from the rectum, but this is not chyle, it is only the changed mucous secretion of the irritated portion of the bowel. It is very curious to observe what different products the same set of secreting vessels will give rise to, according to the mode in which their vital action is affected.

In other cases the discharges from the bowels consist of fatty matter, which bears a strong resemblance to wax, or adipocire. Again, we may have them of a very dark, or even black, colour. I have seen the stools quite black in particular forms of dyspepsia. Some time ago I attended a gentleman at Drumcondra, who exhibited this change in the colour of the intestinal secretions to a very remarkable degree. He was a very large man, accustomed to eat and drink very heartily, having, no doubt, a very capacious stomach and bowels, and a great quantity of fluids and solids. I mention this in order to give some explanation of the enormous quantities of this black fluid which he passed by stool and vomiting. After complaining for a considerable time of dyspeptic symptoms, he got an attack of vomiting; and as he drank freely of diluents during the act of emesis, the quantity of this black fluid which he threw up was amazing; indeed, I might say, without exaggeration, that he vomited by the gallon. With this he had eructations of sulphuretted hydrogen to such an extent, that it was almost impossible to remain in the same room with him. His tongue was as black as ink, and though frequently cleansed, resumed in a short time its former hue. He also passed an enormous quantity of the same stuff by stool. This matter I ascertained, by numerous observations and experiments to be a secretion from the mucous membrane of the bowels, and not depraved bile, or blood changed by the acid secretions of the bowels. Black stools may also depend upon the presence of other matters, as in case of melæna. Melæna consists of a discharge of grumous blood from the intestines, either with or without black matter. The following is the way in which it occurs. Blood is secreted slowly into the intestinal tube; while it remains there it is acted on by the acid secretions of the intestines, the effect of which is to change the colouring matter

into a black, and in this state it is passed by stool. Again, there are other cases in which the discharges from the bowels are found of a tarry and viscid consistence, and having a greenish-black appearance: this would appear to be connected with a vitiated state of the biliary secretion.

I have spoken here of three species of black discharge, each of a different kind, and requiring to have a distinction made between them for practical purposes. Now it is said, if blood be present, you can easily recognize it by putting a portion of the discharge, inclosed in a small linen bag, into warm water, when, after remaining some time, the linen will be stained of a reddish colour. If you take a portion of the tarry discharge, and drop a little of it into water, it will communicate to it a yellowish stain. On the other hand, the black fluid, which consists of vitiated mucous secretion, will not impart either a red or yellow tinge.

I may further observe, that various substances used medicinally communicate a particular tinge to the alvine discharges. Thus acetate of lead, when it meets with sulphuretted hydrogen in the intestines, changes the stools to a black colour. Again, many of the salts of iron have the same property. Other substances, such as logwood, bilberries, &c. impart to them a red tinge, while the continued use of chalk mixture is apt to render them whitish or of the colour of pipeclay. This is apt to give rise to suspicions of the existence of obstruction of the liver; and in one instance I was deceived for some time by it myself. With respect to the greenish-coloured discharges, they are those which are most frequently met with, particularly in children, and are therefore entitled to a greater degree of consideration. There is nothing more common than to meet with cases of this green discharge during the period of infancy; and I regret to state that a great deal of error has prevailed on the subject. Greenish stools are generally looked upon as a sign that the child's liver is out of order, and as an indication for giving calomel. This, however, is by no means true: they not unfrequently depend upon irritation of the intestinal mucous membrane approaching to inflammation. The proper mode of treatment here consists in adopting measures calculated to remove irritability. In such cases, warm baths, the application of rubefacient liniments to the abdomen, the use of antacids, such as chalk mixture, the carbonates of soda and ammonia, small doses of laudanum, and hydrargyrum c. cretâ with Dover's powder, form the best remedies; and their operation will be very much assisted by a careful attention to diet. You will sometimes, it is true, meet

with greenish discharges in adults, but then they are not so fluid as those of children, nor are they attended with the same irritability of the gastro-intestinal mucous membrane. Here the best plan of treatment is the Abernethian: blue pill at night, and a mild aperient in the morning, will be sufficient to correct the intestinal derangement, particularly if assisted by a well-regulated diet, and exercise in the open air. But in children the greenish discharge is often of a much more acute character, and more closely allied to inflammation, or rather irritation; although in some cases it may go on for a considerable time without producing any actual disorganization. It is on account of the property which calomel and other mercurials, exhibited internally, possess of causing irritation in the first instance, and if pushed farther, inflammation of the mucous membrane of the intestines, that they are also apt to produce discharges from the bowels, copious, fluid, and mixed with green mucous flocculi, resembling closely-chopped *spinage*. Sometimes the dejections consist of this green mucus nearly unmixed with any thing else, and then they appear like semi-fluid boiled *spinage*. Now most practitioners think that this green colour is derived from bile which the mercurial has brought down in unusually great quantities from the liver, excited to a more energetic act of secretion. It has nothing to do with the bile in many cases, but is entirely derived from the irritated membrane of the intestines. Long ago I pointed out, and was the first to point out, this fact in the Dublin Hospital Reports. It has very important practical bearings.

ON THE
MANAGEMENT OF LABORIOUS
LABOURS.

THIRD LETTER IN REPLY TO DR. COLLINS.

To the Editor of the Medical Gazette.

SIR,

WITH your permission, I now continue my remarks, dated July 4, on Dr. Collins's strictures on my doctrines, relative to the treatment of laborious labours.

My second assumption, page 106, is, that "after the second stage has commenced, if regular pains continue, and the infant become wedged in the passage, the practitioner is imperatively called upon (supposing the infant within reach of the forceps), to interfere before there be a probability that the pressure

of the uterus upon the navel-string may prove fatal to the infant, and certainly before any untoward symptoms threaten the immediate or eventual safety of the mother."

On this, as it appears to me, most important practical precept, Dr. Collins (page 43 of the Journal referred to) has thus expressed himself:—

"Again, let us examine the results in another point of view: thus, of 15,850 cases where the *length of labour* was accurately noted in the hospital, 15,084 were delivered within *twelve hours* from the commencement of labour; 15,586 within *twenty-four*; 15,671 within *thirty*, and 15,720 within *thirty-six hours*, leaving *only* 130 above that period. In no single instance in all these cases were any means whatever used to effect the dilatation of the mouth of the womb within any given period; nor was artificial assistance ever attempted until the *safety* of the patient absolutely required it."

This admission is certainly at complete variance with the paragraph quoted in my former letter, from page 58 of the same journal, in which the Doctor, from experience, has recommended assisting the dilatation of the os uteri by bleeding, nauseating doses of tartar emetic, and opiates, &c.

But I readily admit that his own account of the cases of protracted labour which occurred under his superintendence in the Dublin Lying-in Hospital fully establishes the correctness of the assertion, "that no means whatever were used to effect the dilatation of the mouth of the womb within any given period, nor was artificial assistance ever attempted, until the safety of the patient absolutely required it." The attentive reader will see, in the account of the following cases, the injurious consequences of this rule.

"(K.) Page 475, No. 674. This patient was thirty-six hours in labour (first child), the head not having advanced for the last twelve, the parts well dilated, and the ear within reach; delivery was accomplished with the forceps. The child was still-born."

The infant, in this case, might have been saved if the forceps had been applied in proper time. Can any practitioner suppose that the continued pressure of the uterus upon the person of the infant, for so long a period, was not calculated to destroy its life?

It may be farther remarked, that in this case the stethoscope must either not have been applied, or must have given an erroneous result.

“(L.) Page 300, No. 32. This patient was sent many miles from the country to hospital, in severe labour, on the evening of the 27th of May. On admission her countenance was expressive of great anxiety, her pulse 120, the foetal heart acting with rapidity, the head low and fixed in the pelvis. Delivery was effected the next morning at nine o'clock, by lessening the head, as the child's heart had ceased to beat, and the patient had become extremely feeble, having vomited several times a dark brown fluid; a rupture was suspected from the symptoms present.

“After delivery, her strength continued rapidly to fail, the abdomen became distended and tympanitic, and she died in fourteen hours.

“On dissection there was evidence of extensive peritoneal inflammation, the uterus was thrown very much to the right side, and at the left its muscular substance was found to have given way close to the vagina. The peritoneum was not injured, but was raised up and distended with blood underneath, resembling a bladder.”

This case affords the most striking illustration of the effects of indecision and procrastination. The poor woman, who had been sent many miles from the country, was admitted into the hospital in severe labour in the evening, with a countenance expressive of great anxiety; her pulse at 120; the foetal heart acting with rapidity; and the head low and fixed in the pelvis. Is it possible to imagine a case more imperatively demanding instant delivery? And as no disproportion is alleged, the forceps might have furnished the appropriate means.

And yet this poor woman was not delivered till nine o'clock next morning, *after the infant's heart had ceased to beat, and after evidence of the uterus having burst, had become manifest.*

My third assumption is, “that the forceps, if properly applied, can do no harm whatever to the mother, while, by diminishing the bulk of the infant, it enables the practitioner to lessen as well as to shorten her sufferings.”

Dr. Collins, page 55 (Dublin Journal of Medical Science, No. 31), has inserted the following note:—“Dr. Hamilton

seems to forget here, that he only used the forceps thirty-three times in forty-eight years.”

The misunderstanding through which this assertion has been made, arises from Dr. Collins not having observed the qualification under which I have stated this fact, viz., “that where I had had charge of the patient from the beginning.”

Indeed, I have always considered, that for the first twenty years of my professional life, I had the very unpleasant duty of using the forceps much more frequently than any other British practitioner, because, during that period, I was applied to in almost all the cases of difficulty and danger which occurred among the lower ranks of this large city.

I have now (June 10, 1837), been compelled to have recourse to that instrument thirty-five times, where I have had the entire charge of the patient. I present to Dr. Collins and the profession the particulars of that last case, for the purpose of illustrating the practical precept under discussion.

Before detailing this case, however, I must notice another misunderstanding of Dr. Collins, which I have great pleasure in being able to explain. In page 41 of the Journal referred to, he has quoted my description of the consequences of the protraction of labour, Part II., p. 44, and has added the following words:—

“As to the symptoms above detailed, representing the real state of the patient in *an ordinary tedious* labour, or the cases recorded by me, in any way shewing such a result, I cannot but dissent. It is, indeed, somewhat like the condition of a patient in *truly laborious and difficult* labours, where such disproportion exists between the child's head and the mother's pelvis, as in most instances to render the reduction of the former necessary. Would any practical physician draw a comparison between the state of the patient here, and in *an ordinary tedious labour*?”

The error by which Dr. Collins has been misled in the above remarks, has arisen from his having supposed that the terms *protracted* and *tedious* labour are synonymous, whereas the word *protracted* is evidently applicable to all cases where the head of the infant being forced foremost, the delivery is not completed within twenty-four hours;

but the word *tedious* has been by Dr. Burns and other respectable authors applied to the first order of such labours. For the purpose of guarding against all ambiguity, I have avoided the expression of *tedious* labour.

From overlooking this obvious distinction, Dr. Collins has alleged, that the symptoms consequent upon the protraction of labour beyond twenty-four hours, which I have described, relate entirely to the first order, and not to cases in general of that deviation from the natural process. He might have seen his error if he had attended to the introductory sentence of the very paragraph which he has quoted. It is in the following words:—"When labour, with the head of the infant advancing, is protracted beyond twenty-four hours, the sufferings of the woman are *more or less distressing*."

The reader will now understand the mistake which has led Dr. Collins to make the following comment, p. 41, line 26:—"As to the symptoms above detailed, respecting the real state of the patient *in an ordinary tedious labour*," &c. Now, I take the liberty to point out to Dr. Collins, that in my *Practical Observations* there is no such expression as *tedious labour*; and far less *an ordinary tedious labour*.

Having made this explanation, I shall now detail the particulars of the thirty-fifth case, where I had recourse to the use of the forceps, having had charge of the patient from the beginning, and if Dr. Collins require it, I can produce the testimony of two most respectable medical practitioners who were in the house of the patient during my attendance.

The patient was a delicate individual, not twenty-five years of age, and rather under than above the ordinary stature, who had suffered so much during the latter months of pregnancy, that she had been repeatedly confined to bed for days.

She supposed herself in labour about three o'clock on a Friday morning, and she continued harassed with irregular pains (which made no impression on the os uteri) till nine o'clock in the evening, when an opiate was administered, which secured a good night's rest. Between eight and nine o'clock on Saturday morning, true labour pains commenced, and proceeded with great regularity and frequency till a quarter be-

fore two of the afternoon, when the membranes burst, and a very unusual quantity of liquor amnii was discharged. The head of the infant immediately descended into the pelvis, surrounded by the uterus, although the diameter of its aperture, previous to the discharge of the water, exceeded three inches.

Strong uterine contractions continued, and by supporting the anterior edge of the os uteri during the pain, the head cleared that part at a quarter past two o'clock, and completely filled the pelvis. Notwithstanding strong forcing pains recurring almost every two minutes, there was no progress whatever by half-past four. The forceps was then applied, and assistance was given during every pain. At six o'clock the infant was safely born. At first it shewed no signs of life, and it was found that it had discharged its meconium. It was quickly recovered, and its head, which was uninjured, measured in the long circumference, making the chin and the vertex the opposite points, seventeen and a half inches, being two and a half inches more than the largest circumference described by Dr. Collins.

Perhaps it may be proper to add, that this lady had a perfect recovery, and is now suckling the baby. Two most respectable medical practitioners saw the infant at birth, and witnessed the measurement of its head.

Let the practice adopted in the case of this patient be contrasted with that pursued by Dr. Collins in the following case, and I think it will not be difficult to decide whether it is proper, in cases of protracted labour, "to interfere so opportunely as to prevent immediate or eventual danger to the mother or child," or whether "no artificial assistance ought ever to be attempted until the safety of the patient absolutely require it."

(M.) Page 465, No. 210. "A woman of a most fretful and anxious disposition was admitted, February 7th, to be confined of her first child. On the night of the 18th, she complained of pain and uneasiness, which she supposed was her labour, yet there was no dilatation of the os uteri; the next day she still complained of some uneasiness, but slept the entire of that night. On the morning of the 20th, the pain and uneasiness returned in a more urgent form, and she expressed herself as suffering the most acute distress; still there was no dila-

tation of the mouth of the womb,—it was quite thin and lax, and the head was low in the pelvis; the waters had been dribbling away from the time she was admitted. The pain continued during the night; the following morning, at nine, A. M., the os uteri was dilated to the size of half-a-crown, but the pains had not assumed a bearing-down character. She had frequent pains during the day, and the succeeding night had intervals of ease, but slept little. On the 22d the pains still continued, yet the head made no progress, and the mouth of the womb was very little more dilated. From this time till the following morning, the 23d, the uterus continued to act imperfectly, the labour, notwithstanding, made very considerable progress, the os uteri being now tolerably well dilated, except towards the pubes, where it still covered the head of the child. The pelvis felt of sufficient size to allow the head to pass, and all that seemed wanting to effect this, was that the pains should become expulsive. The bowels, from the commencement, had been attended to with much care, and the abdomen was quite free from pain on pressure. The pulse after this became hurried, breathing difficult, accompanied with great anxiety and considerable debility. It was now thought advisable to administer an opiate to procure rest, in the hope that the uterus would act with more effect afterwards. Thirty-five drops of tincture of opium, with three drachms of castor oil, were given, followed by quiet rest till the evening. At eight, P. M., she was easy, had little or no labour pain, and took some gruel; an hour afterwards she was seized with the greatest difficulty of breathing, amounting almost to suffocation, accompanied by considerable debility, the pulse was scarcely to be felt, and the extremities cold. On examination, the head was found in the same situation as in the morning, and had it not been that the mouth of the womb still remained over it, next the pubes, an attempt would have been made to deliver with the forceps. The head was immediately lessened, and almost every bone removed before it could be delivered, and even after it was brought down, much exertion was required to free the shoulders and body. The child was large, and the abdomen somewhat distended with air.

“The mother seemed at this time almost lifeless, having lost the power of swallowing. The hand was introduced into the uterus, which was quite relaxed, the placenta was gently removed, and the patient expired immediately.

“On dissection, the uterus was found healthy, but badly contracted, containing a small quantity of coagulated blood; the intestines were in the highest state of congestion, and there was a pint of fluid in the abdominal cavity, with portions of coagulated lymph in different parts, seemingly the effects of inflammation previous to labour. On opening the chest, the lungs were observed to adhere so firmly as to require the knife in many places to separate them. Nothing was discovered to account for the suddenness of death.”

I deem it unnecessary to make a single comment on this case, though perhaps it may be useful to the junior practitioners, to point out to their notice Mr. Travers's valuable work, already referred to.

My fourth assumption, page 106, is, “that when called to a case of protracted labour which had been previously mismanaged, the state of the mother is to be principally, but not exclusively considered, and that if immediate delivery be required, the forceps or the crotchet should be had recourse to without regard to the state of the infant.” In other words, that if the forceps can be applied with safety to the parent, that instrument is to be used; but if the previous pressure upon the linings of the pelvis have excited tenderness or swelling, then the crotchet is to be preferred.

When I studied, I saw several cases under the charge of my father's annual pupils, where delivery was effected by the forceps, and where the patients afterwards died in the same way as those recorded by Madame La Chapelle, viz. “*Marche rapide de la Peritonite.*” Those cases led me to reflect upon the consequences of the infant being confined within the pelvis above a certain time.

This very obvious effect of the protraction of labour seems to have been overlooked by Dr. Collins in the treatment of the following case:—

(N.) Page 482, No. 1053. “The uterine action in this case was feeble; during the first thirty-six hours the head gradually descended; it then be-

came fixed between the ischia. The foetal heart did not cease to beat for sixty-three hours from the commencement of labour, for the last twenty-seven of which there was no progress made. The head was lessened as soon as the child's death was ascertained, and delivery accomplished with the crotchet; the head was much compressed. For twenty-four hours before delivery, the mother's pulse was 132; she had been delivered with instruments in Manchester five years since. She left the hospital well on the eighteenth day."

I have selected this case as strongly illustrating the assumption under consideration. By Dr. Collins's account, the head was fixed between the ischia for twenty-seven hours, and consequently was within reach of the forceps. On the supposition that there was no disproportion, that instrument should have been applied before the patient's pulse was allowed to be 132, and if there had been actual disproportion (which could have been so easily ascertained,) the crotchet should have been had recourse to as soon as the pulse became so much accelerated.

The last assumption which I have made is in the following words:—"That I cannot imagine a case of laborious labour which had been much protracted, where the knowledge of the state of the infant can be necessary to regulate the practice. If the circumstances permit the use of the forceps, that instrument should be employed (the necessity of interference being ascertained), and if, from the previous mismanagement of other circumstances, it might be unsafe to use that instrument, it ought not to be ventured upon, even although the infant be alive."

Dr. Collins declares that this assumption is "startling," and alleges that it encourages young practitioners to "open the head of a living child."—(Dublin Medical Journal, No. 31, p. 51 and 52.) He also, in the following word, rebuts my allegation that the continued pressure of the head of the infant on the contents of the pelvis, may occasion sloughing of the vagina. He says,—

"Another misfortune, scarcely less fatal to the patient's welfare than the above, viz. sloughing of the urethra or of the recto-vaginal septum, is adduced by Dr. Hamilton, as demanding interference in laborious labours. After enumerating several of the symptoms indi-

cative of danger, he adds, delay under such circumstances, according to Dr. Collins's own shewing, would be productive of sloughing of the contents of the pelvis, with all its fatal consequences, as he has so well described, page 18.

"This quotation," Dr. Collins, page 49, continues, "is certainly given with some ingenuity to support Professor Hamilton's own views, which I do feel in several instances he has apparently done in opposition to my sentiments; my meaning, perhaps, being obscure. The passage referred to is taken from my urgent recommendation of the vital utility of the stethoscope in enabling us to ascertain the life or death of the child in laborious labour, which is, in my opinion, one of the greatest improvements that has been made in the practice of midwifery. Heretofore we were in a great measure ignorant of the time at which death took place, and the practitioner, imagining the child alive from want of satisfactory evidence of its death, delayed interfering until his patient was in the greatest possible danger, whereas had he been assured the child was dead, he would have delivered her before life became actually hazarded, and thus prevented her not only enduring for hours, but even days in some instances, the most torturing pain, the result of which continued suffering was not unfrequently death," &c.

The reader will probably not be prepared for the proofs which I now bring forward to shew, not only that sloughing of the vagina *did follow the protraction of labour* in some cases in the Dublin Lying-in Hospital, but also that Dr. Collins had not always, during his incumbency as master of that noble institution, been regulated by this "one of the greatest improvements of the practice of midwifery." From his own recorded cases, it appears that he had allowed several poor women to "endure for hours the most torturing pain, the result of which was not unfrequently death," *after he had ascertained by the stethoscope that the foetal heart had ceased to beat.*

(O.) Page 471, No. 555. "Was sixty hours in labour of her first child. The pelvis was defective, and there had been no advance for the last twelve hours; the child's death having been ascertained by the stethoscope *some*

hours previous, the head was lessened, and delivery thus completed."

(P.) Page 471, No. 584. "Was thirty-six hours in labour of her first child, and as its death had been ascertained by the stethoscope *some hours before* delivery was accomplished by lessening the head."

(Q.) Page 472, No. 626. "The labour having made no progress for eighteen hours, the head being firmly fixed in the pelvis, and the heart's action having *some time ceased*, the perforator was used, and delivery completed by the crotchet. It was a first child; the labour lasted forty-three hours."

(R.) Page 473, No. 665. "Was thirty-five hours in labour of her first child, for the last twenty-four of which, the head had not made the least progress. Her strength being exhausted, and the child *some hours dead*, as ascertained by the stethoscope, delivery was effected by lessening the head."

"She continued to recover favourably till the fourth day after delivery, when she was suddenly attacked with most acute pain in the abdomen, which resisted the most active treatment, and she died in forty-eight hours."

"On dissection a large quantity of deep straw-coloured fluid was found in the abdominal cavity, and all the viscera were extremely vascular. The uterus was soft, but in other respects healthy. The vagina was in a *sloughing* state."

(S.) Page 474, No. 667. "The labour lasted thirty hours; the head was firmly fixed in the pelvis, and had made no progress for twelve hours. As the heart's action had *some time ceased*, and the mother's pulse was one hundred and forty, the head was lessened. Great exertion was necessary to effect delivery, in consequence of the head being much ossified."

(T.) Page 476, No. 740. "Was brought to hospital, reported to have been a considerable time in labour; the pains continued for thirty hours, with little intermission; the labour made but little progress, and the heart having ceased to act *for some time*, the head was lessened, and delivery completed by the crotchet."

(U.) Page 477, No. 817. "Was fifty-six hours in labour of her first child, for the last twenty-four of which the head made no progress. The waters were discharged early, the pains were ineffectual, and the soft parts continued

in such a state as to prohibit the use of the forceps, as the child had been *now dead some time*, as ascertained by the stethoscope; delivery was accomplished by lessening the head."

"She died on the eighth day after delivery, from abdominal inflammation. On dissection, a considerable quantity of fluid of a yellowish colour was found in the cavity of the abdomen, the omentum was firmly adherent to the intestines, which were very vascular; there was also an extensive deposition of lymph. The substance of the uterus was very soft, and the ovaries much injured from the effects of inflammation."

(V.) Page 478, No. 820. "Was 48 hours in labour (first child), for the last 36 of which there was little progress made; and the child having been *some hours dead*, as indicated by the stethoscope, she was delivered by the crotchet."

(W.) Page 480, No. 976. "The labour lasted in this case forty-eight hours (first child), and although uterine action was strong for the last sixteen hours, there was not any progress made. As the foetal heart *had ceased to act for some time*, the brain was evacuated, in which state the head was left for six hours, and then brought down with the crotchet."

(X.) Page 480, No. 1032. "Was admitted in labour of her eleventh child; uterine action very frequent and strong; the os uteri dilated to the size of a crown, and the fundus very much inclined to the right side. In twenty-four hours after admission (the head not having made any progress for the last eight), the foetal heart *having ceased to act for some time*, it was thought advisable to lessen the head, and deliver with the crotchet."

"This was the fourth time she had been delivered artificially. Fifteen months since, she was delivered in this hospital with the crotchet."

(Y.) Page 482, No. 1041. "Was reported to have been 48 hours in labour when admitted (first child). The waters were discharged, the uterine action strong, and the head had passed through the upper strait of the pelvis. The foetal heart's action was audible in the right iliac region. Twenty-four hours after she came in, the heart having *ceased for some time to pulsate*, and the head not having made any progress, it was lessened; and even after this was effected to as great an extent as practi-

cable, it required two hours' diligent exertion to complete the delivery with the crotchet, in consequence of the pelvis, particularly at its inferior outlet, being defective in size."

(Z.) Page 483, No. 1091. "Was admitted, August 23d, in labour of her first child, and was not delivered until the 25th, being a period of fifty-six hours. Uterine action from the commencement until within six hours of the expulsion of the child, was *extremely feeble*, with long intervals. The head remained high in the pelvis, and although the ear could not be reached, it was evident the head had sufficient room to pass; to effect which, the uterine action was alone wanting. As soon as the pains began to be brisk, the labour proceeded without difficulty. The foetal heart was quite audible *until eight hours* previous to the birth.

"In three hours after the hand was passed to remove the placenta; it was found separated, and without the slightest effort the uterus contracted and expelled both. The perinæum had suffered considerably in the passage of the head.

"This patient never seemed to rally after delivery; the pulse continued quick; there was considerable tenderness on pressure over the uterus, with a foul discharge from the vagina. She was treated with small quantities of calomel until the mouth became affected, which produced debility, relieved by mild aperients. She was put on nutritious diet when the abdominal distress had subsided, which occurred when the mercury affected the system. On the seventh and eighth days she had distinct rigors, followed by perspirations, after which her strength became greatly reduced. The vaginal discharges continued foul, notwithstanding the most rigid attention to cleanliness and the use of stimulating injections. She gradually sunk, and died on the eleventh day, having for two days previous suffered from frequent hiccough.

"On dissection, the only morbid appearances found were in the bladder and vagina. In the bladder the mucous surface was covered with yellow lymph, and it contained a quantity of mucopurulent fluid. In the vagina opposite the right ischium, a portion appeared to have been destroyed by *slough*, but its texture did not in other parts seem

materially injured, although of a darker colour than natural.

"This was a very singular case, as there was nothing apparently in the labour in any way calculated to induce such an unfavourable termination. She was a feeble emaciated woman, and seemed to have suffered from hardship."

The best comment which can be made on the above cases is in the following words of Dr Collins himself: "I could not picture to myself a greater act of cruelty, nor a more glaring error in practice, than permitting a female to suffer the torture of a laborious labour, hour after hour, where the child is dead, and the symptoms urgent, until it be at length expelled in a putrid state with the probability of entailing upon her for life the miseries before noticed. It is here the real value of the stethoscope can in my opinion be fully appreciated. There is no mode of diagnosis more truly useful, and I feel convinced all who accustom themselves to its application will eventually agree with me in this opinion."

Besides the extraordinary fact thus proved, that Dr Collins in many cases did not avail himself of "the vital utility of the stethoscope," in relieving the sufferings of patients in whom labour was much protracted, it appears that his rule was to delay interfering in cases of disproportion, till, by means of the instrument in question, he was certain that "the foetal heart had ceased to beat." In one case (No. 1053, p. 482) SIXTY-THREE hours elapsed from the commencement of labour before that event took place.

Against this practice I must enter my solemn protest. Admitting that there is a mechanical impediment to the birth of a living child, I hold that the practitioner, after having ascertained the fact, is bound to finish the delivery before the parent's life or health is brought into danger.

Having thus shewn that Dr. Collins's recorded cases prove most unequivocally the injurious effects of the protraction of labour beyond a certain time, I think it only due to his candour to state, that he himself has, from experience, become convinced of at least one of the bad consequences of such protraction. He says (Practical Treatise, page 305), "I am fully satisfied that the patients in greatest danger of rupture" of the

uterus, "are those who have previously suffered from difficult and protracted labours." In the course of his future professional life, which I sincerely hope may be prosperous and lengthened, I have no doubt that he will be convinced, that the long-continued pressure of the infant upon the abdominal and pelvic viscera is apt to lay the foundation for organic diseases of a very serious nature, which must inevitably manifest themselves at some future period of the patient's life.

In page 69, Dr. Collins expresses a wish that there had been a brief report of the cases which have occurred in the Edinburgh General Lying-in-Hospital, embodied in my Practical Observations. Having already in my first letter, *MEDICAL GAZETTE*, No. 37, for 1837, p. 389, stated my conviction, that the records of lying-in hospitals afford much more limited information on practical subjects than Dr. Collins has been induced to suppose, I feel the less regret in stating, that it is not in my power to comply with Dr. Collins's wish.

When the Edinburgh General Lying-in Hospital was instituted, I drew up a printed schedule for the registration of the cases, and while I was assistant-physician (*viz.*, for seven years,) I entered the record of every case with my own hand.

Unfortunately the schedules were in an octavo form, and therefore when bound up, the several volumes were very easily borrowed, and, consequently, till January 4th, 1823, when the directors, at my suggestion, ordered that the details of the cases should in future be inserted in ponderous ledgers, many of the early records were found to have been lost—perhaps it should be said to have been abstracted. That this fact was made publicly known to the profession in the year 1823, is perhaps unknown to Dr. Collins, and therefore I subjoin as a note, a quotation from a publication of Mr. Moir, surgeon to the hospital, in reference to certain treatises on puerperal fever, published at Edinburgh in 1822*.

* "When he (meaning Dr. Hamilton) was assistant physician, and for many years afterwards, a daily report of every patient, whether convalescent or indisposed, had been regularly entered in a book kept for the purpose. Some of those records have been carried off, others remain, as, for example, those of the women affected with

From the prejudices respecting lying-in hospitals which have hitherto prevailed in Scotland, the funds for the support of the Edinburgh General Lying-in Hospital have been hitherto so inconsiderable, that the medical attendants have acted gratuitously, and of course there could be no provision for the residence of a medical officer in the hospital. But by a happy coincidence, the assistant physician and surgeon, Dr. John and Mr. Moir, for whose intelligence and for whose zealous attention to the patients I cannot offer too high a tribute of praise, have been for several years past resident within a few hundred yards of the buildings and area appropriated to that institution.

It will no doubt surprise Dr. Collins and the gentlemen connected with the great establishment in Dublin, when I state, that by a report presented to the managers of the Edinburgh General Lying-in Hospital, and circulated under the authority of the Right Honourable the Lord Provost of this city, dated 21st January, 1837, it appears that 15,936 women had been delivered previous to 1st October, 1836, and that the whole expenditure (not the annual) including the purchase of the buildings and area, furnishing the same, &c., amounted to the very small sum of £10,214. 13s. 8d.

A regular account of the cases which occurred in the Edinburgh General Lying-in Hospital, from the 1st of January, 1823, to December 31, 1836, and of the out-patients of the same institution, from September 30, 1825, to December 31, 1836, has been kept, and from that record the following extract has been made:—

Two thousand eight hundred and eighty-nine women were delivered in the hospital, and 4328 out-patients were attended, making an aggregate of 7217

puerperal fever in the year 1815, but so far from this being an unprecedented occurrence, as the liberal — has so pompously held forth, he might have learned if he had taken the trouble to have inquired at his friend Dr. McDonald, of the Royal Infirmary, that even in that great and excellent institution, where the establishment is on a most extended scale, there being resident medical officers, a regular clerk, accountant, &c., it has occasionally happened that the records of the cases of the patients have been abstracted." It is added, p. 18 of the same postscript, that "it has been reported that even some of the records of the Police Court (of Edinburgh) have been stolen."

cases. The crotchet was had recourse to in 15 cases, and the forceps in 66.

On comparing this result with that of the cases recorded by Dr. Collins, the difference of practice must appear very remarkable. In the Dublin Lying-in Hospital, the crotchet cases bear the proportion of 1 in 141, while in the Edinburgh General Lying-in-Hospital, the proportion was 1 to 481. Of the forceps cases, including those cases where the lever was used, the proportion in the Dublin Lying-in Hospital was 1 in 608, while in the Edinburgh General Lying-in Hospital, the proportion was 1 in 109.

If the general result of the practice were alone to be taken into account, this view would certainly not warrant Dr. Collins's accusation of "my cruelly encouraging the destruction of the child," and of my "urging junior practitioners to a hasty, unnecessary, and injurious interference." But I have already stated, that minute information on practical points is not to be derived from the *general result* in hospitals; and nothing can better illustrate this than the fact, that in 2889 patients delivered in the Edinburgh Hospital, there were eight crotchet cases; but in 4328 out-patients, there were only seven of such unfortunate cases.

The explanation is obvious,—deformed women are sent from various distant quarters into the hospital, in consequence of its being evident from their shape that their labour may probably be difficult. On the other hand, the out-patients afford a fair specimen of the ordinary practice in the lower ranks. Crotchet cases accordingly occurred in the patients delivered in the hospital once in 361, and the same cases were met with in the out-patients only once in 618. From various communications from old pupils, who have been many years in practice, on whose veracity and intelligence I can rely, I am induced to believe, that the latter proportion is that which may be expected in general practice.

In further illustration of the same argument, I may add, that there were in the hospital 38 forceps cases, being 1 in 76; while among the out-patients there were only 28 forceps cases, or 1 in 154 and a fraction.

With these observations, I conclude my reply to Dr. Collins's strictures, and I confidently appeal to the intelligent

part of the profession, whether the practical precepts, for the treatment of laborious labours, to which that gentleman has so strongly objected, "be fraught with much hazard to the patient," and "be likely to be followed by serious results both to the mother and child."

I have the honour to be, sir,
Yours respectfully,
JAS. HAMILTON.

23, St. Andrew Square,
Edinburgh, July 29, 1837.

MISCELLANEOUS CONTRIBUTIONS
TO
PATHOLOGY AND THERAPEUTICS.

BY JAMES RICHARD SMYTH, M.D.

EXISTENCE OF A CEREBRAL MURMUR.

Chronic Affections of the Brain.

CASE I.—William Joseph Crispin, æt. 7 years, height 35 inches, was born at the natural period of gestation, and was then strong, plump, and apparently healthy, in which state he continued for the first month or six weeks, when his mother perceived him gradually to become thin, and at the same time observed that his health was disordered. On interrogating the nurse it was discovered that the child, a short time before, had been exposed to severe cold, and that that exposure had been followed by a fit of convulsions; his bowels were subsequently much confined, and he was feverish and restless. For these symptoms recourse was had to medical advice, and aperient medicines, with the warm bath, were administered with temporary but no apparent permanent good effect.

From that time up to the present, his condition, as regards his health, has been more or less what we now find it. His bowels are always very irregular, and difficult to move by remedies of any sort; their excretions are sometimes dark, but for the most part light coloured. The slightest exposure to cold produces a cough and dyspnoea, which, in the form of a paroxysm, have sometimes been so severe as to terminate in epistaxis. The respiratory murmur throughout the whole of the right lung is healthy, and of course puerile, intense, soft, smooth, and dry. In the subclavicular region of

the left lung, respiration is weaker than natural, but all over the posterior part of this organ it is pretty normal. There is no evidence of either functional or structural disease of the heart.

The abdomen is small, hard, and retracted; the liver does not appear to be enlarged. The skin generally is of a dirty clay colour, and there is great and general emaciation, which appears chiefly to result from a total absence of cellular tissue, from which circumstance the muscles of the arms and legs, though small, are beautifully and distinctly delineated. He frequently complains of pain in the vertex, and always when unwell he perspires freely from the head, but from no other part of the body. The mother states, that at these times the perspiration from the head during a night is so profuse as to damp the pillow through the night-cap, while the trunk and extremities are quite dry.

The head, which is, no doubt, a little dropsical, is larger than natural: its circumference from forehead to occiput, is between nineteen and twenty inches. The sutures of the upper part of the cranium are all ununited, and the pulsatory motions of the brain can be both seen and felt in the anterior and posterior fontanels, and along the course of the sagittal suture. *On applying the ear to any of these situations, and also over the parietal bones, a brief, rather soft, rushing sound, synchronous with the pulse, is distinctly audible. Over the anterior fontanel and parietal bones it is heard the loudest, and it gradually becomes fainter as the examination recedes over the sagittal suture, posterior fontanel, and occipital bone.* To be somewhat more particular in the earliest description of this new auscultic phenomenon, it is *an abrupt, brief, rushing, arrested sound, in tone something between a bruit de soufflet and a bruit de rape; not soft enough for the former, nor hard enough for the latter. In its character of intensity it varies of course with the energy of the action of the heart and pulse. When the circulation is excited and vigorous, and the heart, unembarrassed by palpitation, beats steadily and strongly, the sound is most clearly audible.*

The veins of the scalp are all considerably, enlarged and very remarkably and distinctly visible. The scalp is quite bald. This boy is pretty active, and fond of taking exercise. His mental

faculties are not undeveloped. The countenance (more particularly the eyes) is clear and expressive. He is exceedingly timid.

What to us, and perhaps to the reader, renders the case now described chiefly interesting, if interesting at all, is the mere fact of the existence of this sound hitherto unobserved, which we have pointed out as accompanying the cerebral circulation. May it be hoped that the zealous cultivators of auscultation,—those who are long familiar with every character and variety of the respiratory and placental murmurs,—will direct their attention to the further and fuller investigation of the sound now introduced to their notice—this similar, or at least analogous phenomenon, which for the present, and with their permission, we shall term *cerebral murmur*.

Whatever remarks we may be prepared to make on the cause of the phenomenon, its mode of generation, with the condition of the cranial bones, and of the brain itself under which it becomes developed, must be reserved for a future contribution; and until we shall have given a few more cases in which it was *present*, and also one case in particular having many pathological points *similar*, but with one, and perhaps only one point *dissimilar*, or may be additional, in which the phenomenon was *absent*. In this latter case we are disposed to think the pathologist may find himself furnished with a few facts, not altogether new but certainly remarkable, and of sufficient importance to merit some little attention. It was a case of chronic hydrocephalus, in which the operation of tapping the brain was performed at least ten times, and in the treatment of which my distinguished and esteemed friend, Dr. Baird, with the late Mr. Vance, took a lively interest.

By the way (if it be not out of place), we would here remark, that, on a cursory consideration of the physical symptoms of this case, the symptoms, as will be seen, of the last stage of the disease, were in connexion with the appearances found in the head on dissection; and on comparing these observations with others made at an earlier period of the malady, we confidently expect further investigation will enable us, by the aid of auscultatory signs, to mark the progress of the effusion into the ventricles of the brain, and the concomitant changes in the structure of the organ in

hydrocephalus (chronic), with the same degree of accuracy as daily obtains in certain diseases of the chest;—we allude to the diseases of hydrothorax and empyema. That, in fact, as in these affections the respiratory murmur is observed to become feeble, faint, and ultimately extinct, as the serous or purulent effusion continues to increase, and the lung becomes more and more compressed,—so in like manner, in chronic hydrocephalus, will the cerebral murmur be found to undergo changes indicative of the increase, or the contrary, of the water in the ventricles of the brain, and the consequent compression and absorption of the cerebral substance. We shall resume our observations on this part of diagnosis and pathology at another time.

Case II.—Robert Long, ætat. 1 year, pale and emaciated, was born at the full time, and was then strong and apparently healthy. He continued to enjoy good health, and to thrive, up to the period of weaning, which took place when he was about five months old. At the age of seven months he was vaccinated, and shortly afterwards he had a severe attack of illness, the symptoms of which were hot skin, head particularly so; lethargic drowsiness, interrupted by frequent startings; bowels much disordered, and the discharges green and slimy. During this attack, which lasted for some time, the child became considerably emaciated, and has ever since been more or less unwell. Of late he has recovered, in some degree, his flesh, but not his spirits. The alvine excretions are stated to be at present pretty natural; he sleeps tolerably well, but with the eyelids considerably apart; the skin generally, and the mucous membrane of the mouth and tongue, are abnormally pale. He is not emaciated but, the muscular system is soft and flabby.

The head is large, and is stated to have been so from birth. Its measurement is as follows:—circumference (from forehead to occiput) 21 inches, from each meatus auditorius over the vertex 14 inches.

The *cerebral murmur* is very audible at all points of the head, but loudest and clearest over the parietal bones and fontanel.

Case III.—Hannah Moore, aged 18 months, was born at the natural period

of gestation, and was then lusty and apparently healthy. She continued to be healthy and to thrive up to the time of being weaned, at the age of six months, when she gradually became inanimate, pale, and emaciated, as she at present is. The commencement of this child's indisposition, as stated by the mother, was accompanied by a cough and wheezing, which latter affection still continues, and the cough is present at times. The bowels are always irregular, their excretions being, for the most part, fluid and light coloured. The appetite is not deficient: she does not sleep well, in consequence of slight startings now and again; the surface and extremities are generally cold, and she is frequently affected with cold clammy perspirations; the abdomen is more tumid than natural, but the liver does not appear to be enlarged.

The pupils are not dilated; the head is larger than natural, and the anterior fontanel and sagittal suture are still open. On auscultating the skull, the cerebral murmur is audible at all parts, but most distinctly so over the parietal bones and fontanel. In the former localities it has more the character of the *bruit de soufflet*—it is prolonged; in the latter situation it has more the character of a soft *bruit de rape*—it is brief.

At present our time will not permit us to offer any observations on the score of diagnosis or treatment, or to enter into any disquisition on the pathological nature of the maladies of these three young patients. All or most of the symptoms, we should say, directly or indirectly, draw attention to the head, and chronic hydrocephalus in an early or later stage of development, would appear to be the malady more or less distinctly announced in each.

Our next case shall be one of *acute* affection of the head, in which the cerebral murmur was also present.

Old Bond Street,
July 31, 1837.

TARTAR EMETIC IN INFLAMMATION OF THE MAMMA.

To the Editor of the Medical Gazette.

SIR,

I SHALL feel much obliged by your allowing the accompanying cases and

remarks a place in your widely-circulated journal.

Your obedient servant,
JOHN C. W. LEVER.

33, Bridgehouse Place,
St. George's, Southwark, Aug. 12, 1837.

My attention was some months since drawn to a paper published by Dr. Evory Kennedy, recommending the employment of tartar emetic in inflamed and obstructed mammæ, occurring after delivery; and from the record of several successful cases, I was induced to make a trial of the remedy. The result, in my practice, has fully confirmed all that Dr. Kennedy has advanced. Of several cases in my note-book, I have selected but six, sufficient in my mind to demonstrate the efficacy of the medicine.

CASE I.—Mrs. M'N——, æt. 21, was delivered October 1, 1836, after a natural labour, of her first child. All her symptoms were favourable until the third day, when her breasts became exceedingly distended and painful. The nurse had rubbed them diligently with oil and brandy, and she had taken in the morning a dose of cathartic mixture, which had operated freely.

On the fourth day—the breasts were more painful and distended, and the surface had become reddened and very hot. Bowels open; motions dark. She was ordered—

Ant. Pot. Tart. gr. j. stat. ex Mist. Cath. ʒij.; postea Ant. Pot. Tart. gr. v.; Aq. Distillatæ. ʒviij. M. Two tablespoonfuls for a dose, and to be repeated at intervals to maintain nausea. The breasts to be fomented with warm spirit-wash.

On the fifth day—The bowels have been opened three times; motions fluid. She vomited after the first two doses of the mixture, and has since continued in a state of nausea. Redness of the breasts diminished, tenseness lessened, and pain entirely gone.

Pergat.

Sixth day.—Every bad symptom diminished; nausea slight.

Omit. med.

Seventh day.—Her breasts are quite comfortable.

CASE II.—Mary L., æt. 34, was con-

fined with her first child on May 7, 1837, after a lingering labour of forty-eight hours' duration. She, however, went on without one bad symptom until the third day, when she complained of pain in her breasts, which, on examination, were found to be hard and very much distended, apparently from obstruction of the lactiferous tubes. The upper tubes appeared to be chiefly affected, as the milk oozed from the lower section of the nipples, and the glands below the nipples had the natural feel. A two-ounce cathartic draught, with one grain of tartar emetic, was ordered to be taken immediately; and the tartar emetic mixture, made of the same strength as in Case I., to be commenced so soon as the draught had operated, and to be repeated with the view of maintaining constant nausea.

On my visiting her next day, I was astonished to see the improvement that had taken place. The medicine was ordered to be repeated, at longer intervals, for forty-eight hours, and she soon entirely recovered.

CASE III.—Mary L., delivered June 10, of her second child, still-born, with nates presentation. On the third day her breasts were exceedingly tumefied, painful, and indurated. The same remedies were employed as in the last case, and with the greatest benefit to the mammary glands; but the mixture produced a troublesome diarrhœa, with great tenesmus, bloody motions, &c. This was relieved by the exhibition of a starch enema, to which were added forty minims of tinct. opii. The mixture was repeated, with the addition of tinct. opii, ʒi. to each dose. This had the desired effect of nauseating without producing the diarrhœa. On the fifth day the breasts were softer, and entirely free from pain; and on the eighth day they were perfectly comfortable.

CASE IV.—Mrs G. has been twice married, but had no children by her first husband. She was delivered in April, 1837, of her first child, a healthy living female; her labour was natural, although there was more hæmorrhage than usual after the expulsion of the placenta: this greatly reduced her strength, which was but feeble before her delivery.

On the evening of the third day I found her complaining of great pain

and fulness of the mammæ; great thirst; tongue white; pulse 120, small and sharp. Bowels opened twice from castor oil. As her powers were much lowered, I was afraid to employ the tartar emetic, but ordered—

Hauſt. Cath. Stat.,

and the breasts to be fomented with warm ſpirit-waſh.

On the fourth day the report is—Breasts are more ſwollen and painful; the ſkin red; nipple retracted; bowels opened once; tongue white; pulse 120.

Hirudines xij. poſtea Fot. calid. Hauſt. Salin. 4tis. horis.

On the fifth day I found ſhe had paſſed a reſtleſs night; the leeches had bled very freely, but without the leaſt diminution of the mammary tenſeneſs or pain, which has become of a throbbing character; pulse 120; bowels not open; tongue white and furred. I now ordered—

Hauſt. Cath. ℥iſſ. Ant. Pot. Tart. gr. j. ſtat. R Ant. Pot. Tart. gr. iv. Aq. Diſtillatæ ℥iij. M. ft. Miſt.

to be commenced after the operation of the draught. The breasts to be fomented with the conium fomentation.

In the evening the bowels had been opened three times; the motions dark and offensive. Has taken three doſes of the mixture, and has vomited after the firſt two; complains much of nauſea, and her face is clammy; pulse 90.

On the ſixth day, much better; breasts ſmaller; has had but little pain, and that not of a throbbing nature. Continue the medicine.

Seventh day.—Still improving. The bottle is uſed daily to draw the nipples, and the child begins to drink well at one of them.

Ninth day.—Doing well; child ſucks both breasts freely.

CASE V.—Mary G., æt. 26, was delivered of her firſt child, May 1837. Her labour was natural; her child a ſtill-born male.

On the fourth day her breasts were very large and painful; ſhe had taken aperient medicine on the third day, which had acted well on the bowels. The gentleman in attendance had ordered ſpirit-waſh to be applied, and the aperient mixture repeated.

On the fifth day the breasts were much more ſwollen and painful; the

bowels had acted twice; the motions coſtive. Twelve leeches were applied, and the magnesia and ſalts mixture given every four hours. In the evening the report was, that the leeches had bled freely; tenſion of the breasts ſtill very conſiderable, and the pain great, of a throbbing character.

On the ſixth day the patient had paſſed a reſtleſs night; there has been delirium; tongue furred, and dry; pulse 126; an eryſipelatous redneſs extends from the mammæ upwards to the face, which is alſo very much ſwollen. Bowels not open. She was ordered—

Hauſt. Cath. ℥ij. ; Ant. Pot. Tart. gr. i. ſt.; and the tartar emetic mixture with ſix grains to ℥viij., to be commenced immediately after the operation of the draught, and the breasts to be diligently fomented with the poppy fomentation.

In the evening the report was—her bowels have been moved four times; no delirium; eryſipelatous redneſs and tumefaction diminished; mammæ leſs painful; tenſeneſs diminished; pulse 110; tongue moiſt; has not vomited ſince ſhe took her mixture, although ſhe complains of feeling ſick.

On the next morning the improvement was ſtill greater; pulse 96, tongue moiſt; mamma greatly diminished in ſize, and pain almoſt entirely gone; bowels not open.

Rep. Hauſt. Cath. ſtatim et Cont.

From this time the patient's recovery was gradual, but complete.

CASE VI.—Mrs. N., æt. 37, whiſt ſuckling her fifth child at an open window, ſix weeks after delivery, felt a coldneſs in her left mamma. The next morning it was ſwollen, diſtended, and painful, and the child could not be made to take it. Frictions, with brandy and oil, were employed by her at the ſuggeſtion of a friend, without ſucceſs. The pain and hardneſs rapidly increaſing, I was requeſted to viſit her. I found the breast greatly diſtended, the ſkin red, and the patient complaining of a throbbing pain, particularly at one ſpot near the axilla, which was exquiſitely tender on preſſure. Her bowels were coſtive, her pulse ſmall and quick, and ſhe was very deſponding.

Hauſt. Cath. ℥iſſ., with Ant. Pot. Tart. gr. l.

was immediately adminiſtered, and the

tartar emetic ordered to be taken, as in the former cases. On the next day I found her bowels had been opened three times: that the first dose of the medicine had made her vomit, and since that effect she had never ceased to feel nauseated: her breast was much diminished in size and hardness, and the pain, which yesterday was so excessive, had almost entirely gone. The same measures were persevered in for two more days, and the gland was restored to its natural condition.

The foregoing six cases will exemplify the circumstances in which I have found the tartar emetic serviceable, where there is an obstruction or inflammation of the organ, whether the latter arises within the first few days after delivery, or from the direct application of cold, as in Case VI. In both states we have pain, tenderness, tumefaction, and hardness. From the cases we also, learn that inflammation of the mamma more generally occurs in first confinements, or where the children are still-born. In Case V. we have an instance of what is not very uncommon (where leeches are applied to the inflamed mamma,) viz. erysipelas attacking the patient and spreading to the head, attended with delirium, &c. I have seen it occur several times; and this it was that first led me to make trial of Dr. Kennedy's mode of treatment. Case IV. is a particularly good illustration of the efficacy of the remedy: the only thing I have to regret is the delay in employing it. The reduced strength of my patient caused me at first to be timid, lest her powers should be too much lowered by the nauseating action of the medicine; but other remedies failing, I was induced to try it, cautiously watching its action. In similar cases I have had resort to it at once, and in no single instance have untoward symptoms occurred. The only formidable symptom which I have met with during the employment of the tartar emetic is the occurrence of diarrhœa, as in Case III., but I have never failed to check it, either by the administration of a starch enema, to which 40 or 50 minims of tinc. opii are added, or using a suppository of the pil. sap. opio, at the same time, combining opium, in some form or other, with the medicine. It must not be supposed that vomiting with tartar emetic is

sufficient to answer our purpose; the patient must be *nauseated*; and this kept up for a longer or shorter time, according to the state of the indurated or inflamed glands. The sensation of nausea is completely under our control; for by regulating the doses of the mixture, by diminishing or extending the intervals between their exhibition, we can augment or lessen that condition which is so essential for the restoration of the glands to their normal state.

Cases treated by Dr. Ashwell.

Since writing the above, I have received from my friend, Dr. Ashwell, of Guy's Hospital, two cases out of the many in which he has tested the value of the application:—

Mrs. H., æt. 27, was confined Dec. 10th, 1836, with her fifth child. To-day (Dec. 20th) she is suffering from pain in both mammæ, but especially in the right. It appears considerably swollen, with distinct enlargement on the right side of the nipple: this has been attended with pyrexia, severe and constant local pain of a throbbing kind, which has prevented suckling on that side. The breast has been largely leeches and poulticed, but has not been drawn for the last forty-eight hours.

I ordered *Fotus Papaveris*, a mild aperient, and the following mixture:—

R Antim. Tart. gr. iii.; Syrup. Papav. 3iv.; Aq. distillatæ, ℥vss. M. ft. Mistura. Capiat. Coch. j.; Magn. 2da q.q. hora.

Dec. 11th. — Tumefaction somewhat subsided, the integuments appearing less stretched, and shining; little nausea.

Pergat.

13th. — Nausea distressing; breast less swollen. The milk can be withdrawn through the nipple. General symptoms improved.

14th. — The breast is free from pain, and appears healthy, its function being well performed.

CASE II. — I was asked, February 16th, 1837, to see a poor woman (Mrs. Thompson), residing in one of the courts leading out of Bishopsgate-Street. I found her suffering from enlargement and pain of the left mamma, especially near the nipple. At this spot there was induration and great tenderness, the cuticle appearing tense and

shining. I thought that pus would in all probability form, if it had not already been secreted. The milk had been suffered to accumulate, from the intolerable pain produced by the attempt to draw the breast, which appeared uneven and enlarged. She had been confined a fortnight: the lochia were suspended, and the bowels constipated. There was much constitutional disturbance.

I ordered poppy fomentations, and the following prescription:—

R Pil. Hyd. gr. iij.; Hyd. Submur.
gr. ij. Ft. Pil. statim sumend.

Haust. Sennæ, post horam unam.

R Antim. Tart. gr. iij.; Liq. Papav.
Alb. 3iv.; Aq. dist. 3vss. M. ft.
Mist. Capiat Coch. j.; Magn. 2da
quaque hora.

Feb. 11th.—The bowels have been freely opened; she had slight rigor during the night, but the breast appears somewhat relieved, being rather less swollen: it has been partially emptied by being drawn.—Pergat.

13th.—Much improved. The breast is diminishing, and she has not experienced any rigor. Nausea distressing.

Pergat.

15th.—All fears of the formation of pus have subsided, the breast appearing but slightly hard.

Sumatur Mistura bis in die.

18th.—The mamma has resumed its natural state. I did not see this patient again.

CASE OF

RUPTURED URETHRA, AND ITS RESTORATION.

To the Editor of the Medical Gazette.

SIR,

IF you think the inclosed case worthy of a place in your valuable GAZETTE, you will oblige me by inserting it.

Your obedient servant,

WM. CLARK,

Surgeon.

Devizes, August 4, 1837.

Edward Eales, a sawyer by trade, was pursuing his usual avocation at

Potterne, a village about two miles distant from this town, when it appears that he incautiously stepped on one side of the plank, and fell astride it, the sharp edge striking him in the perineum. At the moment he did not feel much inconvenience, but some little time after, upon his attempting to make water, found himself unable to do so. The scrotum now began to swell, which alarmed him, and at 12 midnight requested my attendance. Upon arriving there, I found him suffering severely from the general symptoms of retention of urine, and a moment's examination left no doubt on my mind as to the cause of that retention. The scrotum was enormously distended, and of a black colour, as were also the penis and the perineum as far as the rectum. A cold and clammy perspiration bedewed his face; pulse quick and small; countenance anxious; tongue furred and white. My first step was to relieve him from the pain he suffered, by making an exit for the extravasated urine by an extensive incision into the scrotum. This had the desired effect: a large quantity of urine and blood oozed from the wound. A poultice was then applied, and I left him, intending in the morning to ascertain the situation of the rupture, and to proceed, if necessary, to lay the urethra open. In the morning, however, I found that he had made water pretty freely through the proper passage, and he expressed his hope that no more cutting would be required. Finding that he suffered little inconvenience, I determined to leave for a time the case to nature, half hoping that she would so far exert her influence as to heal the ruptured urethra; at the same time I did not forget to watch the constitutional symptoms.

In a week the inflammation in the perineum was subdued by the ordinary remedies: he was free from rigors and the other adjuncts of irritative fever, but still he remarked that he could not void *all* his urine,—a small quantity seemed to remain behind. I desired him, therefore, not to empty his bladder until my next visit, wishing to witness the process myself, in order to ascertain whether his feelings indicated the defect; and I found he was correct. When he was in the act of making his water, I placed my hand gently on the

perineum, and I found a defined tumor; but upon pressing more firmly, this entirely disappeared, and he was then enabled to expel all the contents of the bladder. It appeared to me that a pouch or cyst had formed under the rupture, which received the first stream of urine; and when this cyst became full, the remainder passed off by the natural passage. The existence of this cyst damped my hopes with regard to a natural cure. I attempted to pass a catheter, but failed; I then applied a T bandage, with a view of compressing the cavity. I repeatedly,—I may say daily,—endeavoured to pass an instrument, but was foiled in every trial, until at length I procured a very small one, which, with some difficulty, succeeded. This remained in his bladder for forty-eight hours; the urine passing by its side, induced me to withdraw it, and to try a larger size: I, however, failed in doing so. Some matter now made its appearance at the orifice of the urethra. Until this time no decided symptoms of constitutional irritation had shewn themselves. Now he began to complain of rigors, alternating with flushings of the face; his chest was observed to heave unusually at each inspiration; his countenance was anxious, his spirits depressed; he had some cough, night perspirations, and his ankles swelled. Under these circumstances, I conceived only one thing remained to be done, viz. to lay open the urethra at the contracted part, which was just anterior to the membranous or muscular portion. I therefore requested my friend Mr. Frinder to see him with me, who, after due examination, agreed as to the plan to be adopted. The patient, on hearing our opinions, consented to submit to the operation. A small sound was passed to the lacerated part, the point projecting through it into the perineum. I then made an incision, an inch and a half in extent, along the raphé, and immediately opened the cyst, which contained about 3i. of urine. The end of the sound was thus exposed; and taking this as a director, I enlarged the opening about half an inch, dividing the contracted portion which was semi-cartilaginous. A small silver catheter was then easily passed into the bladder by Mr. Frinder; a piece of lint was inserted between the lips of the

wound, and the man returned to his bed.

It is quite unnecessary for me to give in detail the particulars of each day's visit: after the first three days no urine escaped through the wound, which quickly granulated and healed; all the hectic symptoms disappeared, and his appetite and health were gradually re-established. He now feels no inconvenience in making water, except that it does not come in quite so large a stream as before.

I may, I believe, ascribe the success of the case, in a great degree, to the calm and quiet state of the patient's mind, bearing, as he did, all his sufferings with composure and resignation. I am not sure, notwithstanding his recovery, whether I was justified in delaying the operation for so long a time. My inducements were, in the first place, to give nature a *chance* of restoring the lacerated urethra; and in the second, the total absence of all constitutional irritation. The incision into the scrotum was merely a palliative remedy, intended only to relieve the most distressing symptoms, and it had the desired effect. The formation of a cyst, as in this case, is, I believe, an unusual occurrence; the violence of the blow produced inflammation, which, unchecked by leeches, &c. would in all probability have been followed by unhealthy suppuration, and the usual consequences. Adhesive matter was here thrown out in its stead; parietes were formed which prevented extravasation, and the febrile symptoms attendant thereon, until the urethra was plied with catheters, and not until then did irritative fever set in. Experience confirms that persevering attempts to pass instruments through a contracted urethra are often far more injurious in their effects than the operation itself of laying open the passage.

The medical treatment in this case merely consisted of mild and cooling purgatives in the first stage—that is, from the time of the accident to the accession of irritative fever, when small doses of muriate of morphia were given with good effect; from the time of the operation to the patient's recovery, Infus. Calumbæ, with Liq. Potass.

PNEUMONIA TAKEN FOR FEVER.

To the Editor of the Medical Gazette.

SIR,

IF the following observations on a very interesting and well-described case, related by Mr. Aspland, of Hackney, in your journal for July 8, 1837, entitled "Pneumonia liable to be mistaken for Fever," are worth your notice, they are at your service.

Your obedient servant,

W. MARTIN COATES,

Late Teacher of Anatomy and Midwifery at the Ecole Pratique de Médecine at Paris.

Endless Street, Salisbury,
August 7, 1837.

I read the above-mentioned case with much pleasure, as many apparently similar have, within these last two years, occurred to me in practice, and having formed a different opinion as to the lesion existing in them, I have been induced to offer the following remarks, illustrated by one out of the many cases I have treated. I must first observe, that it is my opinion that although the pungent heat so well described by Dr. Addison is generally present in pneumonia, it is so frequent in other diseases, that it cannot be considered as a certain diagnostic symptom of that disease.

2dly, I cannot, as far as my experience goes, admit that cough, small crepitation, and the peculiar brick-dust expectoration, are so frequently absent in pneumonia as is represented by high authority; yet I must allow that what I advance is only opinion, and I shall be as glad to be convinced as to convince. The following case has many points of resemblance with that related by Mr. Aspland:—

A labourer, aged 30, of consumptive parents, and of delicate constitution, was suddenly, after exposure, attacked with shiverings; followed by heat, thirst, loss of appetite, cephalalgia, delirium, dull pain on the left side, in the space occupied by the most prominent convexities of the seventh, eighth, and ninth ribs, not increased by pressure. His countenance when I first saw him was generally pale and anxious, but with a bright red spot on each cheek; his skin was dry and hot; he had slept but little during the night, and then dreamingly;

tongue brown in the centre, and red at the edges; bowels rather constipated; stools not observed; urine small in quantity, high coloured; slight cough, with expectoration of a frothy mucus; respiration quiet and rather laboured. On percussing the left side of the chest at its posterior and lateral part, it was found quite dull up to the inferior angle of the scapula, whence the resonance returned as I proceeded upwards. The right lung was perfectly resonant; auscultation gave vesicular respiration deficient up to the inferior angle of the scapula on the left side, with bronchial respiration and bronchophony. On the right side the respiration was puerile over the whole lung.

This was the first case of the kind that occurred to me, and I was at first inclined to consider it one of pneumonia complicated with large and rapid tuberculous deposits, though the absence of crepitus and of the peculiar expectoration of pneumonia made me doubt. He was cupped on the left side of the chest occupied by the dullness to sixteen ounces; a purge was given, and ant. tart. freely administered, calomel being excluded in consideration of the consumptive diathesis incident to his family. By these means he was considerably relieved, and in the course of a fortnight all the symptoms subsided, with the exception of slight cough and shortness of breathing; he gained flesh and strength very slowly. On auscultation and percussion, I found the same dullness, tubular respiration, and bronchophony, but occupying a somewhat smaller extent of surface.

The following reasoning led me to consider the spleen the organ affected:—

The slightness of the cough, the absence of crepitus, the little dyspnoea, and the returning strength, with the absence of febrile symptoms, forbade the idea of pneumonia. The fact of the patient regaining strength and flesh led me to hope that there was no tuberculous deposition. The situation of the disease, and the place of residence of the patient (it was surrounded by water meadow), induced me to suspect the spleen.

Acting upon these premises, I gave my patient two grains of quinin. sulph. and watched him. Finding no bad symptoms occur, I increased the dose daily; the cough, difficulty of breathing, dullness, &c. of the inferior part of the

left lung, disappeared, and he quickly recovered.

I do not presume to offer it as my opinion that the case related by Mr. Aspland was one of enlarged spleen, but there is so great a resemblance between the two cases that I thought it right to send mine for insertion in your valuable journal, should you think it worthy of the notice of the profession. I might here remark that I am inclined to think that in the examination of the base of the left lung by percussion and auscultation, the possibility of enlargement of the spleen is too little considered. It may appear extraordinary to some of your readers that the spleen should have so quickly recovered its original size, but if they will ascertain by percussion the space occupied by this organ in intermittent fever, before the administration of bark, and two hours afterwards, their doubts will disappear. I have frequently seen the size of the spleen diminished an inch in diameter, by the exhibition of ten grains of sulphate of quinine under these circumstances.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abrégé.”—D'ALEMBERT.

A Treatise on the Diagnosis and Treatment of Diseases of the Chest. Part I. : Diseases of the Lung and Wind-pipe. By WILLIAM STOKES, M.D., M.R.I.A., Physician to the Meath Hospital and County of Dublin Infirmary, &c. &c.*

[Second Notice.]

GENERAL PRINCIPLES OF THE DIAGNOSIS OF THORACIC DISEASE.

THIS department is well treated, but the duly-qualified reader will find little that is substantially new.

“Signs referrible to Acoustics.

“These have been hitherto divided into those obtained by *percussion*, and by *mediate* or *immediate auscultation*; a division which seems to be unnecessary, as both classes of signs being ap-

preciable, by the ear alone, should be ranged under the general head of *auscultatory phenomena*. Under this head, therefore, we shall treat of Percussion and Auscultation, whether Mediate or Immediate. Previous, however, to our entering on an investigation of their value as diagnostic means, we shall briefly describe the principles of these modes of diagnosis. It is plain that we have acoustic phenomena referrible to a passive and an active state of lung; in other words, to conditions, on the one hand independent of motion or life, and on the other, inseparable from them. The passive phenomena, or those of percussion, which relate merely to the quantity of air within the thorax, may be as well observed in the dead as in the living body; while the active, or those of respiration, the voice, or the phenomena of the heart and arteries, imply motion and life. Hence we may divide the phenomena of auscultation into those of the passive and active conditions.”—(Page 19.)

We shall not discuss the validity of the reason given for placing both classes of signs under the general title of *auscultatory phenomena*, but we have little doubt that many will approve of this arrangement.

Those persons who have tried both auscultation and percussion, and who find or fancy that they can derive much assistance from percussion, although auscultation often fails or misleads them, will be enabled, by this ingenious change in nomenclature, still to consider themselves auscultators in a greater or less degree.

To describe “the *principles* of these modes of diagnosis” for the readers to whom this work is addressed, was surely “un hors d'œuvre,” unless, indeed, for the sake of explaining the division into “the passive and active conditions.”

That “the passive phenomena” “may be as well observed in the dead as in the living body,” is an opinion not to be adopted without explanation. Laennec had made a similar remark. If Dr. S. agrees with him so far as to believe that percussion can be advantageously studied on the dead body under circumstances in which it is usually placed on the table of the dead-house, we beg leave to differ from both of them on this point. Indeed, the opinion is so erroneous, that we can scarcely conceive how Laennec could have main-

* *Erratum*, p. 691, col. 1, line 54.—Instead of “he would have expressed himself with more caution,” read “he would sometimes have,” &c.

tained it; and we suspect that Dr. S. has rather advanced it on authority, or on hypothesis, than from any actual examination as to its accuracy.

Dilatation of the Air-cells—Emphysema of the Lung of Laennec.

“This disease consists essentially in a dilatation of the air-cells. The lung becomes enlarged, and the whole quantity of air within the thorax is increased.” (P. 174.)

“On percussing the chest, in a case where the disease is decided, we observe that the sound is morbidly clear. It is not, however, tympanitic, as in pneumothorax, but may be described as the maximum of the true pulmonary sound.” (P. 179.)

The above remarks hold good, no doubt, in a great number of cases, but there are also many in which a high degree of skill in percussion is requisite to make the distinction with certainty; and, on the other hand, it will be seen from the following candid avowal, that Dr. Stokes does not consider increased clearness of sound to be a constant companion of the disease. The case itself is very interesting, from its resemblance to one of aneurism of the aorta.

“But the morbid clearness of the chest is not met with in all stages of the disease; it is only observed when the affection has arrived at an advanced degree, and may be altogether wanting in the earlier periods. A patient may have a degree of dilatation of the air-cells sufficient to give decided feebleness of respiration, without any perceptible increase in the clearness of sound. Of this I saw a remarkable instance in a patient who was admitted into my wards, and who presented a group of symptoms and signs which led me to suspect the existence of an aneurism of the aorta; his complaints had been of about five months’ standing, up to which time he had enjoyed good health; he then contracted cough, followed by severe dyspnœa on exercise, and some pain in the back and upper portion of the chest. We found that both sides sounded equally upon percussion, nor was the sound at all morbidly clear. The respiration in the right lung was puerile, while in the upper portion of the left it was exceedingly feeble. The impulse and sound of the heart, as observed below the mamma, seemed natural, but a double pulsation could be

heard at the upper portion of the left side: there was no bruit de soufflet, dysphagia, or laryngeal breathing.

“Here was a group of symptoms and signs, which I thought might possibly depend upon a small aneurismal tumor, compressing the left bronchus. But I made no positive diagnosis in the case. The patient some time afterwards died with effusion into the chest; and on dissection it was found that there was no aneurism, but that partial dilatation of the air-cells existed, affecting only the upper portion of the left lung, and that the right cavities of the heart were dilated and somewhat hypertrophied. The feebleness of respiration was clearly attributable to the dilatation of the air-cells; and the case shows that this lesion may exist to such a degree as to give distinct stethoscopic signs, although the sound on percussion be not perceptibly increased. In other cases, too, I have found on dissection, dilatation of the air-cells to some extent, although during life percussion gave no unusual results.” (Page 181.)

Acute Primary Pneumonia.

After mentioning the three stages of pneumonia described by Laennec, our author adds—

“Without impugning the accuracy of this description, we may inquire whether a stage previous to that which Laennec calls the first, does not exist. The following considerations seem to prove that Laennec’s first is really the second stage of the disease:—

“No one can doubt that the crepitating is but the diminutive of the mucous rale; it is a phenomenon produced by the passage of air through a viscid fluid, secreted by the irritated cells, or terminal tubes, and its peculiar characters result from the bubbles being necessarily so minute. The existence of this sign, then, points out that secretion has taken place into the cells and minute tubes; so that Laennec’s first is in reality the secretive stage of the inflammation, and every analogy favours the opinion that a stage of irritation has existed previous to the secretion which caused the crepitus.

“Further, I have repeatedly seen a condition of the lung which seems really the first stage. The pulmonary tissue is drier than usual, not at all engorged, as in Laennec’s first stage, and of a bright vermilion colour, from intense

arterial injection. I have found this condition in the upper portions of lungs, in the middle and lower parts of which Laennec's first and second stages existed. It is obvious that this appearance will be but rarely met with, as a more advanced stage occurs before death; and it is often obscured by cadaveric congestion. I have found it in cases of pneumonia, where death occurred from other causes. In a child who died of an extensive burn, we found nearly the whole of the lung in this state; and I have seen the same condition in subjects who died of acute phthisis, with severe inflammatory symptoms." (Page 310—11.)

The following remarks appear to us to present an example of great rapidity in arriving at a conclusion:—

"On the subject of Laennec's first stage, it is to be observed that it does not necessarily precede hepatization. We may have complete solidity produced in a lung that has never presented the crepitating rale, and the disease pass on into the stages of suppuration and abscess. This circumstance, so important in diagnosis, is met with in certain cases of the typhoid pneumonia, in which a sudden and extensive congestion of blood affects the lung. It may then occur, that a lobe which to-day was perfectly permeable, and presenting no morbid signs, shall in twenty-four hours be solidified, and present dulness with absence of vesicular murmur, broncophonia, and bronchial respiration."

How did Dr. Stokes know what was going on in the intervening twenty-four hours? Might not the patient, if carefully examined during that time, have presented "the crepitating rale?" Is Dr. S. so confident of his own powers in auscultation as to take it for granted, that whenever he can discover no crepitating rale, the phenomenon therefore does not exist. Does he always subject his patients affected with "typhoid pneumonia," to such a rigorous examination as shall enable him to detect, without fail, all the "morbid signs" which the state of disease is, strictly speaking, capable of producing? If he does thus deal with his "typhoid" patients, we suspect that he must sometimes do them but little good by the manipulation.

We do now know why Dr. Stokes has been so liberal as to allow twenty-four hours for "a lobe" to pass from a state of perfect permeability to that of solidi-

fication, when he tells us afterwards, "the lung may pass, in the course of a few hours, from apparent health to complete solidification. The disease begins by hepatization, and often runs its course with great rapidity, and it requires some diagnostic skill to distinguish this case from pleurisy with copious effusion."

In one part of Laennec's work there is a clear and candid avowal of the insufficiency of auscultation in certain cases where very considerable disease exists in the lung. This avowal, however, seems not to have excited the admiration of auscultators in general. It might be curious to examine the manner in which some subsequent writers have dealt with this part of the subject. They have not thought it necessary either to make the same avowal themselves, or to blame Laennec for having made it. We should like to have Dr. Stokes' opinion about it. Those who are curious may consult *the original*, under the head "Des productions accidentelles du poudmon en g n ral." Somehow or other, it is altogether omitted in a certain "perfect translation."

"The rarity of pneumonic abscess has been overrated. I have no doubt of the accuracy of Laennec's observations on this subject, and although in almost all his cases the evidence rests on physical signs, yet I would be sorry to believe that he had been '*deceived by auscultation*;' this I say from the confidence which experience has given me in Laennec's signs of pulmonary suppuration, signs always valuable, but nearly infallible, when, as in most cases, they succeed physical indications of the earlier stages, which precede the formation of abscess."

Some of the most competent judges who witnessed Laennec's cases were well convinced, we believe, that he *was* "*deceived by auscultation*."

Our author gives the following as an example furnishing anatomical evidence of the cure of pneumonic abscess by cicatrization. At all events, it well merits quotation:—

"A young man of strong habit was admitted into hospital for a pulmonary affection of some weeks' standing. The antero-superior region of the right side sounded dull, and in this situation, and likewise over the shoulder, all the signs of an extensive cavity were observable; over the rest of the thorax, signs of bronchitis existed.

"In a short time the patient regained his looks, health, and strength, the pulse became natural, his appetite was restored, and he left the hospital declaring himself perfectly well, although all the signs of abscess continued unchanged.

"After a few weeks he returned to the hospital, the signs of the abscess remaining as before; after some days he was again discharged, and resumed his occupation of a smith. We then lost sight of him for a twelvemonth, when he was again admitted, labouring under severe pleuro-pneumony, which had been neglected, and was of five days' standing. It appeared that after his last dismissal, he had enjoyed the most perfect health, although toiling at his laborious occupation, until five days before admission, when he was seized with pain of the side, cough, dyspnœa, and fever; he continued to work until his sufferings obliged him to desist.

"He then presented all the symptoms of the fourth stage of pleuro-pneumony of the right lung. On percussion, the whole of this side, both anteriorly and posteriorly, sounded completely dull, except in the subclavicular region, where it was comparatively clear. This it will be recollected was the former seat of the abscess. Over the dull portion, bronchial respiration mixed with an intense mucò-crepitating rale was audible, but on examining the subclavicular region, we found to our great surprise, that all the phenomena of a cavity had disappeared, *and were replaced by a puerile respiration.*

"Here was a case full of difficulty. It was plain that the greater portion of the lung was solidified, and had passed into the fourth stage, but why a small portion of it should have escaped the disease when the rest was so far advanced, and that this portion should be that formerly occupied by an abscess, was indeed difficult of explanation.

"All treatment proved inefficacious, and the patient sunk on the third day, the stethoscopic phenomena having continued unaltered.

"On dissection we found the right lung solid over the whole extent indicated by the stethoscope. From the fourth rib downwards, the pleura was covered with coagulated lymph, which being removed, allowed us to see the lung, of a yellow colour, through the serous membrane. In the superior portion the adhesions were evidently old, as

considerable force was required for their separation. On the summit and antero-superior surface, a deep puckering existed.

"The lung was then divided, in a line corresponding to the angles of the ribs, so as to separate it into two portions, connected only at the root of the lung. This gave us at once an explanation of the physical signs. The supero-anterior portion, for a space of three square inches, was perfectly crepitating, and not at all engorged. This was separated from the rest of the organ by the cicatrix of the abscess. The cavity had been obliterated by adhesions of its walls, so as to form a cartilaginous septum, superiorly half an inch in thickness, and inferiorly diminishing to about two lines; the whole length of this septum was about three inches; it commenced at the summit of the lung, running from behind forwards and downwards, and terminated where the large bronchus gives off its branch to the upper lobe; this septum throughout its whole extent consisted of two layers, connected only by some fine cellular membrane, and easily separable.

"It was obviously the cicatrix of the abscess; from its situation it had isolated the subclavicular portion of the lung, or that in which puerile respiration was audible. A bronchial tube passed from the larger trunks, immediately below the cicatrix, so as to admit air into this portion of the lung, which differed in no respect from healthy lung, except that the interlobular septa were remarkably hypertrophied. The remainder of the upper, with the middle and inferior lobes, were solid, of a yellowish grey colour, and infiltrated with pus. The most careful examination failed to detect tubercle in any part of the system.

"That this abscess was really the result of phlegmonous inflammation, there can be little doubt. The absence of the symptoms of phthisis in the first attack; the formation of the cavity, after but a few weeks' illness; the perfect recovery of the patient, all combine to establish its nature; and if additional evidence was wanting, the absence of a trace of tubercle in any part of the body, is sufficient to shew that the cavity was not phthisical.

"I have given this case at length, as no instance of the cicatrization of a pneumonic abscess is recorded, and as its diagnosis is so full of interest."

Signs of the First Stage.

The difficulty of sometimes distinguishing between puerile and bronchial respiration must have been felt by every experienced auscultator. Is not the following instance one of bronchial respiration, produced by strong respiratory movements when congestion is taking place in the walls of the bronchi and air-cells?

"The physical signs of the first stage of pneumonia are still to be determined with accuracy. Without possessing a sufficient number of observations to determine the point, I am led to the belief that an *intense puerility of respiration in the affected part* will be found to be the principal phenomenon. In cases in which inflammation was spreading upwards, I have often found that a puerile respiration preceded the crepitating rale for some hours: and that this was not a general, but a partial condition, was shewn by its being much more intense in the vicinity of the disease than in the opposite lung. Indeed, in cases presenting great puerility of respiration with fever, we may often prognosticate the occurrence of the crepitating rale. Thus in a case in which numerous inflammations successively occurred, and in which the disease attacked both lungs as well as the pericardium, I observed this sudden appearance of intensely puerile respiration on three distinct occasions; in two it was followed by the crepitating rale, and other signs of pneumonia, and in one was removed by bleeding before the above signs had occurred.

"From these and many other observations, I would conclude that we may diagnosticate the first stage of pneumonia by the sudden occurrence of a local puerility of respiration, combined with fever and excitement of the respiratory system.

"The circumstances which give value to this phenomenon, as a sign of pneumonia, are obviously its sudden appearance, localization, and combination with fever."

Phenomena of Voice.

"These signs, which are of comparatively little value, are most evident when dulness of sound and bronchial respiration co-exist. We have then Laennec's accidental bronchophony, always most evident in the posterior and superior portions. It is easily distinguished from

pectoriloquism, by its greater extent, and by the absence of gurgling or cavernous respiration."

By those who have got "the art of easy writing," these things are easily said. Laennec, we believe, sometimes found considerable difficulty in distinguishing his "accidental bronchophony" from "pectoriloquism," although there might be neither gurgling nor cavernous respiration. As to the "greater extent" being of assistance towards the "easily distinguishing" the above signs, if our author means the sensation of the voice extending further in the tubes in the one case than the other, he must surely be aware that this is often a matter of great practical difficulty to decide. We may make the same remark with regard to the absence of gurgling or cavernous respiration in cases of solidification of the lung, from whatever cause; also with regard to the questions whether there is or is not "gurgling" (*i. e.* in a cavern), whether there is or is not "cavernous respiration," and, of course, whether there is or is not, in those cases, the absence of such states as is often only to be "*easily distinguished*" by the active imagination of the observers.

There seems to be a strong disposition among some auscultators to get rid of pectoriloquism, and to praise up cavernous rale and cavernous respiration, as signs easily recognized; but in this last respect they are either deceived themselves, or trying to deceive others. If they have great practice in auscultation, they must know how extremely difficult, if not impossible, it often is to "distinguish" between bronchial respiration and cavernous respiration—between gurgling in a large bronchus and gurgling in a cavern.

We appeal to the conscience of every honest and skilful auscultator on this point. Let those who fancy that they can *easily* make these distinctions, dare to go to the proof, *under decisive circumstances, and before competent judges.*

Phenomena referrible to the Pleura.

"Of all these signs the most remarkable is the tympanitic clearness over the diseased lung, a phenomenon evidently proceeding from an effusion of air, by secretion, into the serous cavity."

"Subsequently to the publication of

Dr. Graves's papers, Dr. Hudson, in an admirable memoir on typhoid pneumonia*, has given four cases, in which, according to him, this phenomenon existed. As two of these occurred in the Meath Hospital, the patients being, in fact, under my own care, I must observe that in neither of them, in my opinion, did the sign in question exist. In the first case, the tympanitic resonance proceeded obviously from the stomach, while the second was an example of solidified lung, with mucus in the tubes, giving the *bruit de pot fêlé*. Dr. Hudson states that the other two cases which he observed in his own hospital were similar to the first which I have noticed. If this be so, I can only say, that I quite agree with him as to the absence of air in his cases.

"The first of Dr. Hudson's cases was an example of violent and universal pneumonia of the left lung; the patient died in the Meath Hospital, with symptoms of inflammation of the brain. On this case Dr. H. remarks, 'that from the hollow sound on percussion of the lower part of the left side, previously quite dull, a pretty general opinion existed, - that pneumonic abscess had formed, and burst into the pleura. The side was punctured accordingly, but no air escaped; and further dissection shewed the pleura adherent to two-thirds of the lung, red and solid, but no abscess. The next was a man who presented himself at the same hospital with the history and symptoms of phthisis; and on percussion under the right clavicle, there was such a remarkable muffled tympanitic sound, with tracheal respiration and resonance of voice, that all who heard these phenomena expected to find a large tuberculous cavity; dissection, however, shewed the lung hard and solid throughout, from chronic pneumonia.' In these observations, I regret that my friend, Dr. Hudson, did not state, that the diagnosis as to the existence of abscess, fistula, and pneumothorax, in the first case, was not made by me, and that I did not expect to find a tuberculous cavity in the second; the opinions alluded to existed only among some members of the class of the hospital."

We have given the above extract

chiefly for the proofs it affords of the great difficulty of diagnosis which sometimes exists, even with the aid of auscultation and percussion. Dr. Stokes, indeed, clears himself, and says that, in the two cases which occurred at the Meath Hospital, "the opinions alluded to existed only among *some* members of the class of the hospital." Dr. Hudson however, tells us that, with regard to the first case, "a *pretty general* opinion existed that pneumonic abscess had formed, and burst into the pleura." The opinion, we suppose, must have been not only "pretty general," but pretty strong, for "*the side was punctured accordingly, but no air escaped; and further dissection shewed the pleura adherent to two-thirds of the lung, red and solid, but no abscess.*"

In the next case there was, "on percussion under the right clavicle," "such a *remarkable muffled tympanitic sound, with tracheal respiration and resonance, that all who heard these phenomena expected to find a large tuberculous cavity; dissection, however, shewed the lung hard and solid throughout, from chronic pneumonia.*" Dr. Stokes, we repeat, has denied any participation in the above mistakes of diagnosis; but we think that, with a knowledge of their occurrence, he ought not to express himself at times as if the diagnosis by auscultation and percussion was an easy matter.

The above two cases form, indeed, an admirable practical comment on much that is said, and much that is written, on these subjects; and if simple-minded people will still persist in their credulity, they cannot complain of want of warning. Let it be recollected, too, that it was at the *Meath Hospital*, where physical diagnosis is cultivated with unwonted zeal, that the two preceding cases occurred.

Dr. Stokes has only once observed the phenomenon of tympanitic clearness over the diseased lung.

"A female, long addicted to the use of ardent spirits, was attacked with a severe typhoid pneumonia, in which the lung ran rapidly into hepatization. On the eighth or ninth day of the disease, the antero-superior portion of the left side, where, on the day previously, there had been a complete dulness, gave a clear, sonorous, tympanitic sound, similar to what is produced by the stomach

* Dublin Journal of Medical Science, vol. vii.

in the highest degree of flatulent distension; this extended from the clavicle to the cardiac region; immediately under the clavicle a slight murmur was audible, while about the eighth rib the pulmonary friction sound could be heard. On the next day the tympanitic clearness had extended to the postero-superior portion of the chest, but on the day following all had subsided, and the chest was again dull, with absence of vesicular murmur.

"This case is decisive as to the question, how far the tympanitic resonance in pneumonia is to be referred to a distended stomach: that such was not the case here is evident, for the sound only existed in the upper portions, and the region of the stomach was never tympanitic. We had further physical signs of irritation of the pleura, in the continuation for two days, of the friction sound, audible below the effusion of air."

Such is the case; but our author has not favoured us with sufficient details to convince us that his opinion about the hepatized state of the lung was fully correct. It seems very odd that a lung in a state of hepatization should come and go in this way. One day the antero-superior portion of the left side was completely dull, the following day the same part gave "a clear sonorous tympanitic sound, similar to what is produced by the stomach in the highest degree of flatulent distension," extending "from the clavicle to the cardiac region," "a slight murmur" being audible "immediately under the clavicle." *On the next day* the tympanitic clearness had extended to the postero-superior portion of the chest, but *on the day following all had subsided*, and the chest was again dull, with *absence of vesicular murmur*.

"This patient recovered, but as is usual in the typhoid pneumonia, her convalescence was extremely slow: the lung continued long hepatized, and an irregular hectic existed. The disease took five months to run through its course, but the recovery was ultimately perfect."

We say again that it seems very odd that a lung which was in a state of hepatization from *typhoid* pneumonia (where resolution is in general so slow), and which, in point of fact, according to Dr. S., "continued long hepatized,"

should thus recede and advance, with regard to the ribs, without much apparent difficulty. Taking the case as it is related, we suspect that liquid effusion had something to do in the matter.

The author himself remarks—

"We had further physical signs of irritation of the pleura, in the continuation for two days, of the friction sound, audible below the effusion of air."

We must agree with him, however, that the stomach was not concerned in this affair.

"It is not, however to be denied, that when the lower lobe of the left lung becomes solidified from any cause, an accumulation of air in the stomach will produce a characteristic change in the sound on percussion, varying with the amount, and subsiding with the disappearance of the air; but this sound is altogether different from that of pneumothorax in pneumonia. I might say, and stethoscopists will appreciate the distinction, that the one is a tympanitic dulness, the other a tympanitic clearness.

"I have known some instances in which this clearness from a distended stomach was mistaken for the natural sound; *such an error can only happen to very inexperienced stethoscopists*; the clearness and distension of the region of the stomach, the bronchial respiration, the voice, will, independent of the character of the sound, suffice to prevent the error."

We may remark, ere we conclude, that Dr. Stokes seems under the word stethoscopists to include not only those who employ *auscultation* (for which, however, the *stethoscope* is not absolutely necessary), but also those who employ percussion.

If we have used great freedom in our comments on some opinions advanced by our author, it is not from any doubt of his having displayed great abilities and ingenuity in this work—but just the reverse; it is the display of these qualities which has led us to devote so much criticism upon his opinions.

We should have much pleasure in presenting our readers with many long and interesting extracts from it, but this is the less necessary, as those who are at all acquainted with the present state of some of our medical coteries must be aware that extracts almost in-

numerable will elsewhere be made with all the accompaniments of lavish praise.

Amidst the many excellent observations which the work contains, we scarcely know which to recommend in preference. Those, however, which relate to what the author calls "the diseases of accumultation," appear to us to deserve especial attention.

In concluding this part of our subject, we may take the liberty of giving a little advice to Dr. Stokes, for whose abilities we have much admiration.

Let him altogether avoid puffing, and despise all puffers; let him leave to posterity the trouble of deciding what works they will adopt as "guides of the consumptive, and the text-books of the student of consumption;" and should any one think it necessary to praise him for his "perfect knowledge" of diseases of the chest, let him not merely feel, but take some intelligible method of showing, that he estimates such compliments at their real worth.

The accounts we have heard of his great zeal and success as a clinical teacher, would alone suffice to convince us that the influence of his example will be very considerable either for good or for evil.

MEDICAL GAZETTE.

Saturday, August 19, 1837.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

ON THE

INEXPEDIENCY OF A SEPARATE LECTURESHIP IN GENERAL PATHOLOGY.

WE subjoin a memorial recently presented to the Town Council, by the professors in the University of Edinburgh, recommending the abolition of the chair of general pathology—a recommendation in which we entirely concur; and we wish particularly to advert to the subject at present, because it is said to be in the contemplation of the Senatus of the London University to require attendance on such lec-

tures of the candidates for their diploma. The establishment of the chair in Edinburgh was a job to serve Dr. Thomson; is the contemplated requirement here altogether free from similar taint?—lurks there no unacknowledged desire to befriend the accomplished morbid anatomist who was formerly Dr. Thomson's *protégé*, and acted as his most skilful draughtsman?—of course we allude to Dr. Carswell; and it is right the Senatus should be aware that the general impression is, that the proposed addition to the existing courses of lectures has had an especial reference to the interests of this gentleman, who is known to have some warm friends in the Council.

As to the lectureship in Edinburgh, the merits of Dr. Thomson, both as a teacher and a philosophic cultivator of his profession, form the only excuse that can be made for the job which led to his original appointment to the chair, or rather to the establishment of the chair for him; but when the real inutility of a separate course, and the real inconvenience of such a multiplicity of lectures, is considered, the earliest opportunity, consistent with propriety towards the late occupant, ought to be taken to remove it.

We do not know the exact manner in which Dr. Thomson conducted the course, nor is that of much importance to the matter generally; but if pathology be taken in its full etymological import, we are sure that there are few who would be both competent and willing to give lectures on so extensive a subject, and one as yet so much hid in obscurity: this, however, is quite clear—that if it were determined that such a course should be delivered, the systematic lectures on medicine and surgery must cease to be necessary, for those on clinical medicine and clinical surgery would be fully sufficient to point out all the practical application of the principles inculcated in the

pathological course. But it is more probable that lectures on pathology would be lectures not on the laws and phenomena of disease, but merely on morbid anatomy—a dry detail of the incurable marks which disease leaves stamped on the body; and such a course as this would be even still more useless. The lecturer on medicine gives, in every case, the morbid alterations produced by each disease as it comes under his consideration, and the lecturer on surgery those which result from each of those which belong to his department, while the lecturer on anatomy adds the morbid changes of structure to which each tissue is liable, in his account of its general anatomy; so that, in fact, there is scarcely a diseased alteration which does not already come twice in each season before the pupils, and in many, where the limits of medicine and surgery are ill defined, the same ground is gone over three times. Surely it need not be repeated a fourth.

Supposing, however, that such a lectureship were necessary—that the subject, instead of being amply considered, were neglected in the present routine of education—the multiplicity of separate lectureships is already so inconvenient, that the evil is scarcely tolerable, and is only made so by the pupils regularly leaving some of the courses, or some part of all of them, unattended. A very short time since we remarked on this, in reference to the subject of examinations at the Apothecaries' Hall, and quoted some judicious remarks by Dr. Latham, on the absurdity of so many subjects being required, and treated of each as if it were the one most needful and most studiously to be followed; and it cannot be doubted that a decrease rather than an increase of the number of courses would be highly advantageous to the pupils. Under the present system, three or four weary hours at the least are employed daily in attending

lectures; then dissecting and attendance on practice are each to have their share of the student's time, and the notes made at lectures are to be arranged and read again, till the mind is utterly fatigued with the dry routine; and, while a book is never opened, a mass of unorderedly and uncertain knowledge is obtained, which it is scarcely ever possible to make use of.

The system of such numerous lectures is at once harassing and useless to the industrious student, and disgusting to the idle one; the consequence is, that all after the first week or two cease to attend some of them, or give up their attendance on the hospital practice, or the dissecting-rooms. We do not believe that there are five schedules of certificates given in each year, at either the College or the Hall, to which the candidate for the diploma could conscientiously sign the declaration of their perfect truth.

Besides, the teaching by lectures is in itself most incomplete: when they have pointed out the general principles of the subject, the general characters of the principal objects it contains, and elucidated the modes by which further information is to be personally acquired, their end of utility is attained. Beyond this, study should be entirely practical; the hospital wards, the dead-house, and the dissecting-rooms, should occupy all the time not devoted to the reading of practical and standard works. Yet this plan is rarely followed; and, in general, students do not attempt this practical part of their profession till they have obtained their diploma. We believe it is universal, that the most regular attendants of medical and surgical practice (and especially of the former), in all the hospitals in London, are those who have already passed their examinations. And it is the same with morbid anatomy: the principles of this, taught in medical and surgical lectures, are to be

followed out only by the personal examination of the dead, *after* studying the disease of each in the wards; for, separated from the investigation of morbid action, the study of morbid changes is worse than useless; it is mischievous. Yet this must necessarily be the result of abstract lectures on pathology, or morbid anatomy. For the course itself, a more dry uninteresting series of hours than would be spent in hearing lectures on the alterations of structure, illustrated as they could only be by drawings and preparations, can scarcely be conceived.

The subject of the Edinburgh professorship has led us rather widely into the consideration of the lecture system generally, because, as already mentioned, we learn that it is contemplated by the Senatus of the London University to add such course to their curriculum. One question it is important to us and to all to ask—Does the Council of the New University really intend to demand certificates of attendance on a separate course of pathology, from those who are candidates for medical degrees? If so, it behoves all to be stirring to prevent it: not that it would be difficult to find plenty who would be either competent or willing (and a few who would be both) to lecture on it. Lectures are things easily got up, and there are many earnestly looking out for any opening. But the system is already overburdened, and if more weight be accumulated on it, must fall. We have often stated our conviction of the propriety and utility of it as an excellent means of introducing the student to the elementary part of his studies, which is otherwise exceedingly difficult of attainment; but if carried to excess, the mind must fail in its attempts to receive all that is pressed upon it.

We do not believe there is an hospital school in London where morbid anatomy is not amply taught. In addition to the

lectures on anatomy, surgery, and medicine, which together would constitute extensive courses of it, the different subjects are constantly illustrated in the clinical lectures on both branches, which are now almost universal. Besides, in the great hospitals, there is usually some person regularly employed to conduct the post-mortem examinations, by whom all that occurs may be amply explained during the investigation; while museums are collected, wherein the student may advantageously occupy himself in the examination of specimens. And in all these cases, the morbid changes being pointed out in connexion with the symptoms during life, and the numerous modifying circumstances of each case, afford far more useful information than could be given in a set course of *ex professo* lectures on the subject.

We sincerely hope that the abolition of the separate course, proposed by the Edinburgh professors, may be carried, not only for the sake of the benefit that will result to that University, but for the example which it will set to that in our own metropolis. From the report of the proceedings which followed the presentation of the memorial, a compliance with its requests seems highly probable: the only obstacles to it are some matters of form, and some question as to the right of the Town Council to abolish a Professorship; but there was not a single voice in favour of its continuance. It would be strange, indeed, to see one University thus doing away with a lectureship as useless, and that after a fair trial, and in skilful hands, while another was at exactly the same moment introducing the same as a necessary improvement in the system of medical education. But from all we can gather, the combined sagacity which *our* modern Bœotia presents among the *élite* it has culled from all the fields of learning and all the College

walls in the three kingdoms, is likely to cast quite into the shade the mouldering wisdom of the Modern Athens of the north.

NEW UNIVERSITY.

MESSRS. BACOT, RIDOUT, AND
WARBURTON.

Our readers may remember—or if not, they will find it recorded in our pages—that when Mr. Bacot and Mr. Ridout, two members of the Court of Examiners at Apothecaries' Hall, accepted the appointments offered them in the New University, we declared such office to be incompatible with the interests of their own Society, and the allegiance which they owed to it. The "Court of Assistants" have now taken the same view of the subject; and those gentlemen, after considerable preliminary discussion and much discomfort, have—resigned. They were originally seduced by Mr. Warburton, who thought it a piece of skilful generalship to get the Examiners of any of the existing chartered bodies to join the embryo University. Negotiations were entered into with the College of Physicians and with the College of Surgeons,—both of which peremptorily declined the offers made to them. Mr. Bacot and Mr. Ridout viewed the matter differently, and accepted seats in the new *Senatus*. Both parties have thus been deceived or outwitted; Mr. Warburton, who selected them solely because they held prominent official stations in an establishment already in full activity, of which advantages he has been deprived ere yet the New University has come into operation; and Messrs. Bacot and Ridout, inasmuch as they have exchanged certain and lucrative offices for what is at present but a mere empty honour, and with only a very problematical reversion of any thing more substantial in the future.

We may also take the opportunity of

stating that Mr. Warburton himself now holds a totally different position in the University from what he had anticipated, having been in the minority in all important questions connected with the medical department.

MEMORIAL OF THE EDINBURGH PROFESSORS

AGAINST THE CHAIR OF PATHOLOGY.

"We, the undersigned medical Professors in the University of Edinburgh, understanding that the Town Council, as patrons of the University, have resolved to accept Dr. Thomson's resignation of the Chair of General Pathology, and engaged that he shall receive 150*l.* annually as a retiring allowance from his successor, respectfully beg to make the following proposal:—

Believing that the institution of a Chair of General Pathology in the University, though so far justified by the high reputation and eminent qualifications of Dr. Thomson, was not required or expedient, since the subjects appropriated to it are inseparably connected with several other established departments of medical instruction, and most profitably taught in connexion with them; and knowing that the circumstance of such a course being imperative on candidates for graduation in Edinburgh is peculiarly oppressive, as there is no similar Chair in any other University of Great Britain or Ireland—we earnestly desire that this Professorship be abolished; and we therefore respectfully propose to the Council that it be now abolished, and that the retiring allowance to Dr. Thomson shall be defrayed from the proceeds of a course of lectures on General Pathology, which we are willing to undertake to deliver annually during his lifetime, on the understanding that the fee shall not exceed what may be estimated as sufficient for the purpose, and that any incidental surplus shall go to the matriculation fund.

We are willing to bind ourselves to make good the full amount of Dr. Thomson's salary; and we hope that this proposal will appear to the Council sufficient proof, that, in desiring the abolition of the Chair of General Pathology, we are actuated solely by our thorough conviction of its being unne-

cessary, and injurious to the interests of the medical school, and by our anxiety to maintain the credit and efficiency of the University.

(Signed) W. P. ALISON, P. Institutes of Medicine.

R. CHRISTISON, P. Materia Medica.

JAMES SYME, P. Clinical Surgery.

CHARLES BELL, P. Surgery."

—
"Edinburgh, July 7, 1837.

We, the undersigned medical Professors in the University of Edinburgh, beg to express our entire approbation of the measure proposed above by our colleagues.

(Signed) JAMES HOME, P. Practice of Medicine.

GEO. BALLINGALL, P. Military Surgery.

T. S. TRAILL, P. Medical Jurisprudence.

THOS. CHAS. HOPE, P. Chemistry.

R. GRAHAM, P. Medicine and Botany.

JAS. HAMILTON, P. Midwifery."

EDUCATION OF APOTHECARIES.

To the Editor of the Medical Gazette.

SIR,

YOUR leading article of 5th inst. states the comparative number of examinations and rejections at Apothecaries' Hall since 1815, and refers to the causes of them; it contains, also, some judicious remarks on the general question of education for that department of the profession.

Having been formerly a member of that Company, and actively engaged in a Committee of "general practitioners," by which the whole subject was closely investigated, and attentively considered, between 1812 and 1815, I am induced to submit a few observations, chiefly on points where difficulties or doubts seem to exist, viz. the requisite qualifications of an apothecary, latinity, attendance at lectures.

Your readers are probably aware, that, prior to 1815, many persons were in actual practice as apothecaries, who had not attended any medical lectures, nor frequented the wards of an hospital;

and that a very great number were imperfectly qualified for the duties they assumed.

Under those circumstances, it must be evident that a legislative measure was required to protect the community from the injurious effects of misplaced confidence, where their own judgment could not be exercised to discriminate between the qualified and unqualified practitioner, and to secure to the duly educated that occupation which might be justly expected as the reward of diligence in study, and honest fulfilment of their professional duties; the eagerness of competition being always sufficient to circumscribe the emoluments of that occupation within reasonable limits.

The Apothecaries' Act of 1815 has, in a great degree, effected both these purposes; but it has been doubted whether the routine of study required of candidates for examination has not been too extensive: it is admitted, at least, that there exists a disproportion between the quantity of knowledge required and the *time or manner* in which it is usually obtained.

It might be urged with some plausibility, that the life and health of a poor man are of as much value to his family as those of a rich man, and that, consequently, the qualification of the medical adviser for the poor ought to be as high as that for the rich. In a scheme for the perfectibility of human institutions, this sentiment may be admitted; but its practicable application is doubtful, and has no parallel, for there are degrees or grades in the other professions.

The temporal affairs of a man in moderate circumstances may require the judgment of a barrister, yet he must be content to avail himself of the services of a solicitor or attorney on general occasions, and take the barrister as a referee in cases of importance. The spiritual wants of the poor man may require the learning of a bishop; but he must be satisfied with the consolations of religion administered by a curate, or, occasionally, by the pious attentions of a rector. The sick poor (not parochial paupers), and persons in moderate circumstances, may require the judgment of a physician, and the skill of an hospital surgeon; but they must be satisfied with the attendance of a gentleman who administers relief in cases of disturbed health and accidental

injuries, from which he is called "a general practitioner." It is, therefore, necessary to provide for the education of such practitioners, who also supply medicines, and who, *in order to be extensively useful*, must be of easy access, and satisfied with a very slender remuneration.

In reverting to first principles, namely, the wants of the public in medical and surgical affairs, and the means by which those wants can be adequately supplied, it is necessary to look at the question in all its bearings. It must not be supposed that I wish to disparage the general practitioner, for this is the estimate of his situation, expressed in the beginning of 1814, in a pamphlet printed at my own expense, and sent to every member of Parliament for the purpose of shewing the necessity of the Bill or Act, which, with some slight modifications, was carried through the legislature in 1815*, at which time I was a member of the Royal College of Surgeons, also of the Apothecaries' Company, and continued a "general practitioner" until 1820.

In the present condition of society in England, there must be a medical man for general occasions, of good practical knowledge. If the standard of qualification of such a practitioner be fixed high and made expensive, young gentlemen will be likely to form, and *not unreasonably* entertain, an expectation of greater reward for their services, than the public will be able to confer, and this will become a source of mutual dissatisfaction; the usefulness of the medical man would be abridged, and the community partially injured, by being thrown into improper hands. If the standard be fixed too low, a crowd of persons, unworthy of confidence, will be admitted, and the public wants will be inadequately supplied.

It has always appeared to me a very difficult thing to restrain, *within reasonable limits*, that laudable desire which honourable men possess of raising their own department of the profession in the estimation of society; and yet it is absolutely necessary for the governing members of the Apothecaries' Company, for the reasons adduced, to exercise a

most vigilant discretion, and to avoid extremes. Something ought to be left for the exercise of industry, leading to higher excellence and individual distinction. There are practitioners in pharmacy, whose attainments, literary and professional, are of the highest class; they are usually appreciated and rewarded; but it would be injudicious to make it absolutely necessary for every candidate to reach such attainments. It seems to me that the station of apothecaries, surgeon-apothecaries, or "general practitioners," closely resembles that of attorneys and solicitors, who have barristers or referees, whilst the medical man in promiscuous practice has an appeal, in cases of difficulty and danger, to the physician and the consulting-surgeon.

The apprenticeship of five years is of variable usefulness. Nobody will doubt the importance of a director of the studies, and a supervisor of the moral habits, of a youth, between the age of 16 and 21; nor will any reasonable man deny that too much of the five years is *commonly* bestowed upon the mere details of pharmacy *for the advantage of the master*, which could be more usefully employed by an earlier commencement and *more regular attendance* at lectures, *for the advantage of the apprentice*. The fee with an apprentice ought to be such as would remunerate the master *liberally*, for board and lodging, during five years, and he should not be thrown upon the *necessity* of repaying himself by keeping the youth, year after year, to shop-drudgery, and thus saving the expense of an assistant.

With respect to Latin, it is stated that many young men are rejected on account of their insufficient knowledge of it. This cannot happen where the youth has been articled to a member of the Royal College of Surgeons, or to one of the chartered Company of Apothecaries, because proofs of sufficiency are required before signing the articles; but in distant places, and in all cases where the master merely practises under a license from the Company, and is not a surgeon, holding a diploma from the College, the same guarantee does not exist.

This deficiency could be effectually prevented by the Company making a *regulation or rule*, that every youth who

* An Inquiry into the present state of the Medical Profession in England, containing an Abstract of all the Acts and Charters granted to physicians, surgeons and apothecaries, &c.

is apprenticed in future under such circumstances should have a certificate from the master of a grammar school where he had studied, of a suitable knowledge of Latin, *at the time of apprenticeship*; and in order not to *entirely* exclude young men whose preliminary education has been less carefully conducted, it might be conceded, *as an occasional exception to that rule*, that they shall have duly studied that language, *under a competent tutor*, during their apprenticeship, and shall produce the certificate of that tutor, with their professional testimonials, at the time of examination*.

The irregular attendance at lectures is a more serious evil; it is not merely discreditable to the youth who absents himself from his classes, but it is unfair towards the respective lecturers, who are desirous that all the pupils should receive full instruction; it is, besides, unjust towards their parent who has paid the fee, and it inflicts an injury on the community, by an education so loosely pursued, which must be defective.

The Parliamentary Committee was aware of this source of fallacy, by asking Mr. Ridout (one of the Examiners at Apothecaries' Hall), the following question:—"Is any certificate required stating the number of lectures out of the whole course that the student attended?" To this Mr. R. replied with frankness, "The teacher is accustomed to remark upon the certificate *whether the student attended*—whether he at-

tended regularly or diligently, or very diligently, *according to his feelings* upon the subject. We, at present, have no means of ascertaining whether the student has, *bonâ fide*, attended; we rely entirely (and we hope with sufficient reason,) upon the integrity of the teachers."

Mr. Ridout is a gentleman of education and experience; I am sure he will concur with me, that such a vague and uncertain manner of proceeding *in elementary instruction* ought not to be tolerated; he knows that it would be considered uncourteous in any lecturer to refuse a certificate, unless a strong case of negligence had been presented to him, and the teacher is willing to suppose that a youth *will attend*, when his class-fee had been paid.

There is an easy manner of ascertaining who is present and who is absent at every lecture, which I think ought to be adopted at the class-room of every teacher. Let a person be placed sufficiently near the door of the lecture-room to write down the name of *every* student who goes in each day, and let this register be handed to the teacher as soon as the lecture is over; and if he has a book with the name of every student in the margin, with a line drawn under it across the page, intersected by perpendicular lines from the top to the bottom of the page, it would not occupy five minutes for a class of two hundred, to keep a correct account of the attendance of every pupil, by putting + or 0 opposite the name, thus—

October, 1837.†	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Johnson ..	+	+	0	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+
Wilson....	+	0	+	+	+	+	+	+	+	0	0	+	+	+	+	+	+	+
Smith	+	+	0	+	+	+	+	+	0	+	+	+	+	+	0	+	+	+
Edwards ..	+	+	+	0	+	+	+	+	+	0	0	+	+	+	+	+	0	+

* Any youth who has not been sufficiently attentive to the study of Latin, and is desirous of speedily acquiring a correct knowledge of the structure of the language, will find his endeavours much facilitated by translating the Exercises in Wanostrocht's Latin Grammar, published by Longman and Co., Paternoster-Row. The arrangement of the book is that which is usually employed in teaching modern languages;

it explains, with clearness, many things which are generally viewed as difficulties, and inducts the student into an acquaintance with the subject in less time than any other method which has come under my observation.
† The year, month, and the days of lecture. One page will serve for a fortnight, every day; or a month, three times a week.

At the end of the certificate, there should be three printed lines, with spaces to be filled by the lecturer, *before signing his name.*

Total number of lectures . . . —
 ——— attendances ———
 ——— omissions . . . ———

A. B.

It would be necessary to make a regulation, that if a given number of omissions had occurred, as an eighth or a tenth of the whole course, *the certificate would not be admitted*; and I am of opinion that a beneficial change would be effected in many of the pupils, and that the Examiners, by finding the candidates more equally prepared, would have fewer causes of rejection.

The *punctual* attendance of all lecturers, of all hospital physicians and surgeons, *at the stated hours*, should be insisted on with strictness: any deviation is improper. The class of one lecturer is disarranged by the negligence or dilatory proceeding of another. The hospital physician or surgeon who is behind his appointed time breaks a link in the chain of study of the most diligent pupil, and, by causing him to wait, induces a bad habit of loitering, highly unjust to individuals, and indirectly injurious to the public.

These suggestions and free remarks are offered for contemplation: they are not intended to imply censure nor to provoke controversy, but to lead to a sedate consideration of the best means of providing for the wants of the community in the prompt and useful exertions of the prescribing apothecary or "general practitioner." There is no class of educated men, except curates, who visit the sick poor in populous districts, so scantily paid for valuable services; and the very miserable pittance *usually* bestowed* for attendance on the parochial paupers of wide districts is unjust in itself, and has a direct tendency to degrade that department of the profession.—I have the honour to be, sir,

Your obedient servant,

ROBERT MASTERS KERRISON, M.D.

12, New Burlington Street,
 August 7, 1837.

* I have not said *awarded*, because an award infers previous investigation (of labour, &c.) with a necessity to compare and a disposition to form an *equitable* judgment, which processes of the mind seem to be either slurred over or totally omitted on these occasions, and a jump made to these conclusions. How much labour can we obtain, and how little (under eager and often *unequal competition*) shall we pay for it?

GENERAL LYING-IN HOSPITAL.

MIDWIFERY REPORTS.

BY EDWARD RIGBY, M.D. F.L.S. &c.

To the Editor of the Medical Gazette.

SIR,

IN my last reports of cases at the General Lying-in Hospital, published in the *MEDICAL GAZETTE* of September and October, 1835, I apologized for having delayed the insertion so much beyond the time I had intended. On the present occasion I must again apologize, and for a still longer delay; my time has not permitted me to take the cases so regularly as I could have wished; they must, therefore, be confined to those among the out-patients, to whom I have been particularly called, on account of their unusual nature. I will also take the liberty of adding reports of a few private cases, where the circumstances have been peculiarly interesting.—I am, sir,

Your obedient servant,

EDWARD RIGBY, M.D.

August 5, 1837.

The first case which I have to notice is one of a singular species of perineal laceration, where, instead of passing through the os externum and producing laceration backwards, as is usually the case, the head tears a false opening for itself, *through* the perineum.

Anna Lanworn, æt. 24, Feb. 1, 1835, was delivered by a midwife on the 28th of January; has experienced much difficulty in passing water since her labour, which has increased so much that she has not passed any for 24 hours. Abdomen distended and slightly painful; pulse rather quick; bowels not open. Vagina hot and very tender; frænulum perinei not torn, but there is a large gaping wound in the perineum, so that the finger introduced per vaginam passes out again, through the centre of the perineum. The laceration extends backwards to one side of the anus, and forwards to within an inch from the anterior margin of the perineum.

The catheter was passed immediately, and about three pints of urine, not peculiarly high coloured, were drawn off with great relief. The bowels were kept gently open; opiates occasionally given to procure sleep and allay irritation; and the water regularly drawn off. In about six days the catheter was no longer required; the parts were kept clean by poultices of chamomile flowers, and occasionally carrots, and the wound contracted considerably. The opening continued to contract

for some time afterwards, so that at length it would barely admit the finger.

It is well known, from the degree of contraction which takes place in the perineum shortly after labour, that what has been a laceration of considerable extent, will diminish so remarkably as to become of very trifling importance. Whatever union takes place between the edges of the wound in such cases, must, in great measure, be attributed to this cause. In the present instance, when I first saw the patient, viz. on the fourth day after labour, the opening through the perineum was very wide and gaping, nearly equalling the os externum itself in extent: it was then a question with me whether the edges should not be brought together by strapping or sutures; but I determined to rely on the gradual contraction of the perineum after labour, and the still further diminution of the opening by granulations, and therefore merely directed my attention to keeping the wound clean, the bowels open, &c. I placed her under the charge of a very intelligent midwife, in whose care and judgment I had the greatest confidence, and the result confirmed my best expectations. When the wound had closed so much as to leave an orifice of scarcely a quarter of an inch in diameter, I was anxious to renew the granulating process, which had now ceased entirely, by the application of caustic; but my friend and colleague, Mr. South, who kindly afforded me the assistance of his opinion, dissuaded me from the attempt, under the conviction that the opening would diminish still further: this proved to be the case, so that at the termination of her next pregnancy it would scarcely admit a small bougie. I was somewhat anxious about the result of her second labour, and warned the midwife, in whose charge I had placed her, to use her utmost care in supporting the perineum, as I feared that when the head began to protrude the perineum, the orifice would again dilate, and we should have a repetition of the former mischief. I therefore determined to be present, if possible; but the child, which was full sized, was born so rapidly, that I did not reach her till a few minutes after its expulsion. The head, however, had come through the natural opening; and from the care with which the perineum was supported, no laceration was produced.

Eliza Dibbin, æt. 40, April 15th, 1835; fifth pregnancy; full time; last labour four years ago; has always had very difficult lingering labours. To outward appearance she is well formed. Pains came on yesterday morning at seven; os uteri gradually dilated, and at 2, p. m. the

membranes ruptured, and much liquor amnii was discharged. The pains were constant until 11 at night, when they abated considerably, and I was sent for at three in the morning. The midwife could only reach the head with difficulty yesterday noon, being high up above the symphysis pubis. By 11 at night it had advanced somewhat into the superior aperture: has not passed water for some hours. On examining per vaginam, I found the os uteri dilated, the head very high up, pressing hard against the symphysis pubis: plenty of room in the cavity of the pelvis. I could barely reach a fontanelle at each extremity of the sagittal suture; but by no means distinctly. Little or no cranial swelling; passages tolerably cool and moist; anterior portion of urethra much swollen. As the pulse was very weak, and there was much exhaustion, I gave her a little brandy in some gruel; and having drawn off about a pint and a half of clear urine by the catheter, proceeded to apply the forceps.

Supposing it was the first position of the head (with the occiput to the left foramen ovale,) I passed the lower (1st) blade along the left sacro-iliac synchondrosis, and the upper one under the right acetabulum. A fold of the vagina was somewhat in the way; but both the blades passed up readily and locked without difficulty; the lock being level with the os externum; a portion of vagina got between, but was removed by my pupil, Mr. Blundell, who accompanied me. The handles at first stood so wide asunder, that I half feared the forceps were not properly applied. I tied the handles firmly together with tape, and began to make gentle extractive efforts with every pain: the head advanced very slowly. Every now and then Mr. Blundell tightened the ligature upon the handles, the extremities of which were now at the usual distance from each other. I told him that I feared we should find the forceps applied obliquely upon the head, because they were now completely in the transverse diameter of the pelvis, and I could distinctly feel the head in the oblique diameter. As soon as the head entered the cavity of the pelvis it descended quickly, and was born without much difficulty, the occiput turning to the right side: one blade had passed over the angle of the left eye, the other under the right ear: the head was much flattened and distorted, but there was no depression on it, as is sometimes observed. The child *very* large, male; it breathed immediately, but had not fairly cried, even when I left. As there were but little evidences of uterine activity, I gave her some ergot the instant the head had passed; the uterus contracted

well; but from the great flaccidity of the abdominal parietes, it hung completely over to the left side. Slight hæmorrhage came on: I therefore requested Mr. Blundell to support it with his hands until I removed the placenta, which came away immediately the moment he did so; it was unusually large, and was followed by some large coagula. A broad bandage was applied to the abdomen immediately afterwards, with much relief.

This case presents several points which are worthy of notice. The forceps were applied when by far the greater portion of the head was above the superior aperture, an operation which is by no means of common occurrence, and which has been opposed by several highly experienced and respectable authorities. The head having been pressing against the brim of the pelvis, and the os uteri being dilated so many hours, and, moreover, the exhausted state of the patient, demanded a speedy termination of the labour. If I had not ventured to apply the forceps, I had no other choice but to perforate. I could not feel satisfied in considering the forceps contra-indicated, *merely* because the greater bulk of the head was still above the brim. She had already borne four children; and although her labours had been very severe and difficult, several, if not all, of the children had been born alive. Unusual difficulty was experienced this time, from the greater size of the child, and but for this circumstance the natural powers would have been sufficient, as in her former labours, to have forced the head through the contracted brim without artificial assistance. For further observations on the subject of applying the forceps where the head is above the brim, I must refer the reader to the case of Mrs. Worsley, reported by me in the *GAZETTE*, for May 3, 1834, p. 189. The head being so high up, pressing so firmly against the symphysis pubis, and there being plenty of space in the cavity of the pelvis, were proofs of diminished antero-posterior diameter. It might be urged that, as I was not able to distinguish the fontanelles with sufficient correctness, I ought to have felt for the ear, as is usually directed in this country; but, situated as the head was, this could scarcely have been effected without an improper degree of violence. Dr. Dewees's observations on this subject deserve notice*. From the commencement I feared that the forceps was not applied in the proper direction as respects the head. The reasons for this apprehension, which proved correct, have been already stated.

[To be continued.]

* Compendious System of Midwifery, p. 30.

BOOKS RECEIVED FOR REVIEW.

An Experimental Essay on the relative Physiological and Medicinal Properties of Iodine and its Compounds; being the Harveian Prize Dissertation for 1837. By Charles Cogswell, A.B. M.D. &c.

Dr. Spillan's Manual of Diagnosis of Diseases of the Chest.

Plans for Regulating Medico-Parochial Attendance, &c. By John Charleton Yeatman.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 17, 1837.

Robert Twinford Francis, Fairbrook-Boughton, Kent. — Charles Rendell, Tiverton, Devon. — Francis Fox, Plymouth. — Charles Septimus Hop-ton, Appleton Wiske, Yorkshire. — John Treble, Roystone, near Barnsley. — John Bowles Robertson, Hendred, Berks. — Daniel Culhane, Glynn, Limerick. — Robert Vaux Leese, Coleman-street. — William Griffith, Llanrwst, Denbighshire. — Charles Henry Scott, Portsea, Hants.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Aug. 15, 1837.

Age and Debility	40	Heart, diseased	1
Apoplexy	5	Hooping Cough	16
Asthma	14	Inflammation	26
Cancer	2	Bowels & Stomach	3
Childbirth	3	Brain	5
Consumption	56	Lungs and Pleura	7
Convulsions	33	Influenza	4
Croup	1	Insanity	2
Dentition or Teething	17	Jaundice	1
Dropsy	7	Liver, diseased	11
Dropsy in the Brain	17	Measles	19
Dropsy in the Chest	2	Paralysis	2
Epilepsy	1	Rheumatism	2
Erysipelas	1	Small-pox	5
Fever	14	Spasms	1
Fever, Intermittent, or Ague	3	Thrush	1
Fever, Scarlet	2	Tumor	1
Fever, Typhus	3	Unknown Causes	8
Gout	1		
Hæmorrhage	1	Casualties	7

Increase of Burials, as compared with the preceding week } 114

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

Aug.	THERMOMETER.	BAROMETER.
Thursday . 10	from 46 to 73	29.89 to 29.84
Friday . . 11	51 73	29.83 29.85
Saturday . 12	47 75	29.89 29.94
Sunday . . 13	43 76	30.04 30.11
Monday . . 14	40 78	30.15 30.18
Tuesday . . 15	40 75	30.18 30.12
Wednesday 16	47 76	30.06 30.02

Wind, S.W. and N.E.

Generally clear; a few drops of rain on the afternoon of the 16th.

CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, AUGUST 26, 1837.

CLINICAL LECTURES,

DELIVERED AT

SIR PATRICK DUN'S HOSPITAL,

During the Session 1836-7.

BY PROFESSOR GRAVES.

LECTURE XIX.

On the Influenza—Course and Progress—Effect of Climate, Locality, &c.—Mortality—Peculiarities of Epidemic of 1837—Symptoms—Singular Case with Hernia.

[NOTE.—Many of the following observations on Influenza were added two months after the lectures had been delivered, but have been, for obvious reasons, incorporated in the lectures, rather than appended as notes. These lectures not being intended to furnish precise and complete details of all the symptoms of influenza—a task now unnecessary, having been performed by various writers in the MEDICAL GAZETTE, and other periodicals—I have confined my attention chiefly to points from which general pathological conclusions, and views of the nature of epidemic diseases, may be derived.—R. J. G.]

I adverted yesterday to the subject of influenza, and endeavoured to point out some of the principal features in which epidemics differ, as to their mode of spreading, from diseases which owe their diffusion chiefly to contagion. I stated that contagious disorders were comparatively slow in their progress, attacking different masses of the population in succession, and exhibiting, in general, a tendency to affect distinct classes of the community at different periods. On the other hand, when an epidemic like influenza makes its appearance, every thing comes under its influence almost simultaneously, and

it overshadows the whole country in the space of a few weeks. Such is the course of the present epidemic, and so it was with the influenza of 1782, which travelled from the East, and left traces of its ravages in almost every quarter of the globe. In the case of epidemics which traverse the whole, or nearly the whole extent of the inhabited portion of the earth, it would be a matter of great interest to ascertain the place of their first appearance, or their point of departure. The cholera commenced in Hindostan, and in its route followed the great lines of communication and commerce: its general progress has been north-west; but in Portugal, Spain, and Italy, it has travelled in various directions, its progress, however, being in general along the great lines of communication leading from the part of the frontier where it first broke out, towards the large towns in the interior. It is probable that influenza pursues some certain and uniform course, independent of the physical circumstances which retarded, accelerated, or stopped the progress of Asiatic cholera. It is likely, too, that its rate of spreading is subject to fewer variations. Cholera took years to accomplish its journey from Hindostan to Britain; but, once established there, it crossed the Atlantic at a single step. The march of influenza has not as yet been mapped out, but from the accounts which have reached us, it seems to have travelled at the same time in very different directions, arriving at Cape Town in January, during mid-summer, and in London in the same month, during mid-winter: while it is reported to have reached New Holland, and to have raged among our antipodes, two months earlier.

It is obvious that influenza does not depend upon mere variations of temperature, for we have had many seasons as changeable as the present, without the occurrence of any such epidemic. Besides, influenza

is known to be a disease which travels through the most different climates, preserving its peculiar character and identity in all. It is not to be supposed that the same temperature, or the same barometrical and hygrometrical conditions of the atmosphere, prevail here as in Spain, France, Germany, or Sweden; yet in all these countries the present influenza has exhibited an uniformity of character, and an identity of type, proving beyond all doubt that it is one and the same disease. That influenza is not produced by a low temperature, is proved by the occurrence of the disease in the month of June, in the epidemic of 1762; and in the months of May and June, in that of 1782; as well as by its appearance at the Cape of Good Hope in the middle of summer, as I have already noticed. At present influenza is rather on the increase in this city; and yet you have observed that, for the last week, the weather has been remarkable for its serenity and agreeable mildness. In London many were led, by a limited view of the subject, to consider its origin as connected with the breaking up of the frost, and the peculiar state of atmosphere attending a general thaw. Influenza is not influenced in its progress by situation or locality; it does not creep along the shores, or follow the course of large rivers, or select low marshy districts, in preference to drier and more elevated soils.

From what has been said, it is obvious that influenza does not depend upon vicissitudes of temperature, peculiarities of situation, or supposed moist or dry states of the atmosphere; neither does it arise from the prevalence of certain winds, for meteorological observation furnishes many instances of the prevalence of such winds without any influenza; and, on the other hand, it frequently travels against the wind. It is probable that influenza may depend chiefly on telluric influence — upon some agency connected with variations in the physical conditions which operate on the external surface of our planet; but on this point we can only speak conjecturally, in the present state of our knowledge, and we should not allow ourselves to lapse into more speculative and fruitless disquisitions. How often the variations to which I have alluded occur, and whether they are subject to any general law, remains yet to be determined. Several epidemics of this description have been distinctly recorded in the eighteenth century, viz. in 1708, 1712, 1729, 1732, 1742, 1762, 1767, 1775, 1782, 1789; while in the portion of the nineteenth century already elapsed, four influenzas have occurred, viz. in 1803, 1831, 1834, and 1837. This list is as complete as our medical

annals will permit us to make it; but still we cannot rely on it as including all the epidemics of this nature which have occurred during the last 137 years. Supposing it correct, it would indicate the average return of influenza once every ten years. In making calculations of this kind, medical writers should always take care not to confound influenza, or disease which spreads rapidly over the whole globe, regardless of season and climate, with those local catarrhal affections that occur in all temperate climates almost annually. One thing, at least, is certain with respect to this disease, that it does not arise from exposure to cold, or, as it is termed, from catching cold. This I have repeatedly observed. Persons who took the best care of themselves, who always went warmly clothed, and were never exposed to the inclemency of the weather, took the disease just as readily as the half-clad labourer, who had to undergo daily exposure to all the vicissitudes of our changeful climate. But it should be observed, that although the attack of influenza in any individual was not necessarily dependent on exposure to cold, yet in many instances it was evident that catching cold determined the immediate access of influenza, or increased its violence when present.

I have also observed, that it seldom attacked persons labouring under acute diseases, until the period of convalescence arrived, when their immunity ceased, and they became just as liable to its invasion as others. Thus patients labouring under typhus escaped as long as the fever continued; but frequently, on the very day the crisis occurred, and symptoms of returning convalescence appeared, they were seized with influenza. This is a very unfortunate circumstance. Just as a patient had struggled through a fever of seventeen, nineteen, or twenty-one days, he was attacked with a new and dangerous malady, which again placed him in a situation of imminent danger.

You must have observed, that influenza does not appear in every individual with the same violence, or exhibit in all, symptoms identical in their intensity or duration. As in most other epidemics which affect society at large, the different constitutions and ages of the individuals, and the different states in which the morbid influence finds them, modify greatly the nature of the attack; so that although a vast number are affected, they suffer in very different degrees, and the complaint exhibits every variety of shade, from simple coryza, or catarrh requiring no treatment, to catarrhal fever of the worst and most unmanageable description.

Many persons laboured under what would be termed a common cold, were it not from the extreme frequency of such symptoms, combined with other circumstances which mark the nature of the disease. The same thing was observed with respect to cholera: few persons, during the prevalence of cholera, escaped without undergoing some form of bowel attack; but the mode and character of such attacks varied very remarkably. It remains to be ascertained whether the poison which gives rise to intermittent fever, or to typhus, is also capable of being conveyed into the system in different doses, and of giving rise to corresponding derangements of health. Dr. Rush brings forward many facts to prove, that when the causes of yellow fever do not act with sufficient energy to produce in the constitution that particular form of disease, they may nevertheless occasion fevers of a less violent character, or may even give rise to chronic derangements of the general health, unaccompanied by fever. This is rendered more probable, when we recollect the great length of time certain poisons continue to exert a baneful influence on the health. Thus, Assistant-surgeon J. W. Macauley informs me, that one officer and several men, inmates of the Royal Hospital in Dublin, are suffering from ague, the poison of which they imbibed in the ill-fated Walcheren expedition!

Very lately, an officer of rank, much

distinguished in the Peninsular war, came from England to consult Mr. Crampton, Dr. Kennedy, and myself. Among other ailments, he was affected with evident traces of a vernal tertian, contracted in Portugal about twenty-seven years ago, and which has seldom failed to return annually ever since.

Influenza is not by any means so severe or so rapidly fatal a disease as cholera, but the mortality which it has produced is greater, as it affects almost every person in society, while the ravages of cholera were comparatively limited. Consequently, although the proportion of deaths among a given number of individuals attacked was greater in cholera, the mortality for society at large is much greater in influenza. In Dublin, it is extremely difficult to obtain any thing like exact statistical details of the comparative mortality at different periods, for no general registry of deaths is kept in this city. Through the kindness of Mr. Eiffe, Secretary to the Caledonian Insurance Company, I have been enabled to get an accurate return of the interments in Prospect Cemetery, at Glasnevin, in the suburbs of this city, for the months of January and February, during which influenza was very prevalent, as also for the corresponding months of the preceding year. He has also furnished me with an account of the burials during the months before and after influenza.

Interments at Prospect Cemetery, Glasnevin; probably the largest in Ireland.

In December 1835	355	In December 1836	413
January 1836	392	January 1837	821
February 1836	362	February 1837	537
March 1836	392	March 1837	477
<hr/>		<hr/>	
Total for four months	1501		2248
Increase during influenza			
747			

Assuming, then, that in Prospect Cemetery alone, about seven hundred persons were buried who died of influenza, and that there are at least three times as many persons buried in the other churchyards of the city and suburbs, we may conclude that in Dublin alone more than three thousand people died of the influenza, not taking into account the great number who, although they got over the immediate attack of the epidemic, sank afterwards under various diseases, of which influenza had laid the foundation. In Paris, the influenza caused likewise a great mortality; for it appears from a statement in the *Révue Médicale*, that the average daily mortality during the first fifteen days of February amounted to 110, which is more than double the usual average. This only refers to persons dying in

their own houses, and does not include the deaths in hospitals. 18,000 die in private houses annually in Paris, *i.e.* on an average about 50 daily. The rate varies from 20 to 70 a-day, according to the season; but during the first fifteen days of February, it rose from 58 to 152 in the day.

Influenza has been very fatal where it attacked persons who had been subject to chronic bronchitis, or who had happened to labour under any form of asthmatic affection;—for this, I confess, I was not quite prepared. And when first called to attend asthmatic persons labouring under influenza, I expected that from being accustomed to periodic attacks of dyspnoea and cough, they would be better qualified to bear the disease, and would continue to exhibit that tenacity of life for which asthmatic persons are so remarkable. The

old also suffered considerably; but some very old persons had extremely severe attacks of influenza, and yet escaped. I attended, along with Mr. Maurice Collis, the venerable Judge Day, the cotemporary of Goldsmith, who, at the age of 93, had sufficient strength of constitution to shake off a most violent seizure. Two gentlemen, who had fought at the battle of Bunker's Hill, also survived the disease in a severe form; but generally speaking, it was very fatal among the aged. Influenza was also very fatal among persons who laboured under disease of the heart; and in this instance age made no difference as to result, for the young and old were equally liable to danger. I have also seen it fatal in cases of deformity of the chest, from curvature of the spine and other causes. The mortality was also very great among persons in advanced life who laboured under tussis senilis: in a word, all persons labouring under pulmonary irritation or weakness were exposed to very considerable danger. Subsequent experience has proved also, that where influenza left behind it an obstinate and irritative cough, and where the constitution had a scrofulous taint, the disease was very apt to pass into tubercular phthisis. Among all the families I know, but two escaped the influenza altogether: one consisted of eleven children, besides the parents and servants, and resided in Pill-Lane, in the very centre of the city; the other family consisted of five females, advanced in life, and who lived in one of the fashionable streets.

Allow me to digress here for a moment, for the purpose of making one observation, which a review of several cases of influenza, attended with severe pulmonary symptoms, suggests to me. It is a common error in pathology to confound effects with causes, and where the cause of a disease is not, and probably cannot be known, to fix on some peculiar and leading symptom, and attribute to it the origin of all the rest. But it is quite illogical to say that one symptom is the cause of another, or that because it has the precedence, it should also have the initiative. I alluded to this error in a former lecture, when speaking on the pathology of scarlatina. It has been over and over again asserted, that the dropsy of scarlatina arises from the previous inflammatory affection of the skin, or subcutaneous tissues, and the same thing has been asserted with regard to the desquamation of the cuticle. But I have brought forward facts and arguments to prove that this opinion is not founded in truth, and that dropsy, as well as desquamation of the cuticle, may take place where there has been no eruption whatever, and not the least trace of cutaneous

or subcutaneous inflammation. Now when a person, after exposure to cold, gets pneumonia or bronchitis, followed by anasarca, it is quite a common thing to hear it said, that the anasarca had its origin in the pulmonary affection, and that the effusion of serum depended on obstructed transmission of blood through the lung. The same mode of explanation has been applied to disease of the heart as the cause of dropsy. This explanation, however, appears to me inadequate and unsatisfactory. Many cases of influenza were accompanied by extreme congestion of the lungs, and consequently imperfect aeration of the blood; and yet I have not in a single instance noticed the occurrence of dropsy as an immediate or remote consequence. Were dropsy dependent on the state of the lung to which I have alluded, it would have shewn itself in some cases at least; and yet I have seen individuals attacked with influenza labouring under orthopnoea and severe pulmonary symptoms for weeks, without observing in any instance the slightest anasarca or oedema*. This has strongly impressed upon my mind the conviction, that when dropsy comes on after disease of the lung, that the one is not always the consequence of the other, but that both often result from the same cause, and owe their origin to the same morbid impression on the system. This error has been further confirmed by the results of treatment, practitioners having found that measures adapted to remove congestion of the lung tended also to remove the dropsy; forgetting here, that where two symptoms closely allied together arise from the same cause, you will be most likely to relieve both by those means which are effectual in removing either. The principles which I have here briefly alluded to, will apply to many other combinations of disease; it is one of general application, and, in my mind, of no ordinary importance.

The present epidemic differs in many points from that which prevailed here about three years ago. The influenza of 1833-4 was by no means so generally fatal as the present. It was characterized, like the present, by considerable irritation of the tracheal and bronchial mucous membrane, but not by the severe bronchitis and pneumonia which have been witnessed in many cases of the present disease. The former raged in Dublin chiefly during the months of March and April; it came on very suddenly, with rapid pulse, hot skin, great prostration, languor, and

* I saw one old gentleman at Rathmines, whose feet and legs were much swollen; but this I attributed to his having remained so many days and nights in his chair, unable to lie down. He was under Mr. Crampton's care, and recovered.

excessive sweating; there was cough, coryza, and, not unfrequently, vomiting at the commencement. One of the most prominent symptoms, however, was headache, which was excessively severe. There was also, *cæteris paribus*, more debility, and the patients did not bear bleeding so well as they have done at present. But the most material point in which they differ is the comparative mortality. The disease in 1834 carried off some very suddenly with cerebral symptoms, and proved fatal to others from oppression of the chest and dyspnœa. Few, however, died, who survived for a week after they had been attacked, and the disease rarely left behind it a cough at all approaching in violence and obstinacy to that which now harasses convalescents. On the whole, the fever accompanying the influenza of 1834 was more acute, and set in with more marked depression of the nervous system, than that which attends the present, and the disease was much less liable to become chronic.

It would conduce greatly to the advantage of medical science, if a brief and accurate history was left to posterity of the character, symptoms, pathological phenomena, and treatment, of every epidemic. Such a record would prove a guide and beacon to the practitioners of future ages—would enable them to draw important comparisons between the existing and the past—and thus arrive at a more fixed and available knowledge of the nature and habits of epidemic complaints.

There are, I have no doubt, many curious forms of epidemic disease which pass through society either wholly unnoticed, or confounded with others to which they have some slight affinity. I think I have seen particular forms of scarlatina, measles, small-pox, and fever, which have not been accurately noted, although they prevailed as epidemics. If every form of epidemic was noted, and the order of its succession marked, it would remain to be ascertained by posterity, whether there may not be what may be termed cycles of epidemics, and whether disease, after having manifested itself in determinate forms, following each other in determinate succession, may not commence again after the lapse of a certain number of years, and pursue the same course. This is not impossible, if we suppose that epidemics are connected with telluric or electrical influences, which are now known to observe a periodic course. Were this ascertained, a sort of observatory of epidemics could be easily established in the various civilized states.

In treating of the nature of the present influenza, it will be proper to consider, in the first place, the general constitutional symptoms which attend it, and afterwards

glance at those which are chiefly of a local description. In some cases of influenza there is little or no fever: neither does the presence of fever seem essential to the more severe or even fatal cases, although, generally speaking, fever occupies a very prominent position among the group of symptoms by which the disease is characterized. I have seen cases in which there was nothing like regular fever from beginning to end, and yet which terminated fatally.

I am at present treating two patients who have been labouring under orthopnœa for the last ten days, and yet in these patients the skin is cool, the pulse in general soft, and very little above the normal standard, and the tongue, though furred, quite moist; yet so great is the distress of respiration, that they are obliged to remain sitting up in bed night and day, panting for breath; and I am of opinion that both will die. This, however, is the exception with respect to severe cases, the majority being attended with very considerable fever. In the slight cases the fever is scarcely perceived, or altogether absent; this was the case with myself and some of my friends. We had coryza, hoarseness, cough, and some degree of pulmonary irritation, without any fever. At first, I thought that fever was an essential part of the disease: but the cases to which I have alluded, and others of a similar kind, have convinced me that this is not the fact. Where the fever appears, it comes on with the usual symptoms of pyrexia, namely, sense of chilliness, particularly about the small of the back, without decided rigors, flying pains in the limbs and joints, and headache, generally referred to the situation of the frontal sinus. There is, from the commencement, great restlessness, jactitation, and more or less insomnia. Sickness of the stomach, loss of appetite, and tendency to diarrhœa, are also common symptoms. The skin is in general hot, and without any tendency to moisture, although, in some cases, there are occasional perspirations. These, however, are seldom general or regular, and last only for a few hours. The pulse is accelerated and tolerably full, occasionally even hard and wiry. These symptoms are very subject to slight exacerbations and remissions, and seldom continue the same for more than twelve hours together. Where the disease exists for any length of time in a violent form, the tongue usually becomes furred and loaded, the patient loses all relish for food, and in many cases complains of harassing thirst. In severe cases the most prominent symptoms are cough, wheezing, restlessness, dyspnœa, and loss of sleep. The appetite is generally more or less impaired; but I have

seen some severe cases in which it did not fail remarkably for several days: the restlessness and jactitation attend many cases throughout. You are not, however, to suppose that this always depends on the presence of pain or fever. The headache is not in all severe or distressing, and I have already stated, that the fever is not so general or so violent as one would suppose. The loss of sleep depends upon derangement in the tone of the nervous system, independent of fever; for I have observed it in numerous patients, in whom scarcely any febrile excitement was observable; but when complicated with fever, both react upon and aggravate each other. The skin, where fever is present, is hot; this heat is interrupted by occasional perspirations, which, however, do not give much relief, or tend to diminish the amount of increased temperature. Sometimes the skin is hot, and at the same time bedewed with perspiration during the whole course of the disease; but this is rather unusual. The pulse is seldom the same throughout; one time you will find it quick and rather hard; in six hours afterwards it will be quick and soft; in six or eight hours more it will appear as if about to fall to the normal standard, and next day you will find it quick and jerking again. These changes are accompanied by corresponding alterations in the temperature and humidity of the skin. But what is most remarkable with regard to the pulse is, that it sometimes becomes full, and rather strong and wiry, towards the termination of the disease; and this you will observe in patients who have been suffering for days or even weeks. I have been attending for the last fortnight, with Mr. Colles, a gentleman in Castle-Street, aged 60, of a full habit, and subject to attacks of dyspnœa and cough during winter. This gentleman was attacked with influenza, ushered in and accompanied by severe fever; and it was observed that as the disease advanced his pulse became fuller and stronger, so that it was thought advisable to bleed him. He was bled with apparent relief, and the blood was excessively buffed and cupped. This phenomenon I have observed in every case attended with fever, and indeed in some where no appreciable fever existed. Thus, a gentleman in Dame-Street, who had no fever, and who merely laboured under teasing cough, distress of respiration, and oppression of the chest, the blood, on being drawn, exhibited very distinct buffing and cupping. The same thing happened in the case of a gentleman, in Dominick-Street, whom I ordered to be blooded under exactly the same circumstances. The gentleman in Castle-Street, whom I attended with Mr. Colles, exhibited a very

curious state of pulse. In him, as in many others, the pulse was extremely variable as to its strength, being at one time hard and firm, and at another soft and weak. If you were to visit him in the morning, from the feel of the pulse you would be inclined to give him stimulants; if you saw him for the first time on the evening of the same day, you would think venesection indispensable. This gentleman's state was hopeless: he laboured under great suffering, dyspnœa, and inability to cough up the viscid mucous secretion, and yet his pulse was both strong and firm. Mr. Colles, whose attention I directed to the state of the pulse, observed, that were he to feel it without seeing the patient or knowing his previous history, he would be greatly inclined to bleed him immediately. I have adverted in a former lecture to this state of the pulse, as connected with irritation of the nervous system, rather than with any inflammatory state of the constitution in general, and therefore I shall not now recur to the subject, further than to remark, that I have never observed any disease in which the pulse formed so bad a guide as to the propriety of venesection as the present epidemic. In some cases venesection was most useful, although the pulse was in every respect natural; in others it could not be borne even to the smallest amount, although the pulse was hard and wiry. Neither was the state of the blood an unerring guide, for even in those who sank rapidly, from the debilitating effects of moderate bleeding, the blood was very much cupped and buffed.

Before I conclude, I shall mention the particulars of a very remarkable case which came recently under my notice. I was called to visit a lady, somewhat advanced in life, but of a good constitution, and labouring under the ordinary form of influenza, with considerable dyspnœa and cough. In the course of eight or nine days her symptoms began to decline; she got up, and seemed convalescent. As the cough and pulmonary irritation still prevailed to a certain extent, it was thought advisable not to allow her to eat meat, but she obtained leave to take some fresh haddock. After dinner, her cough becoming more troublesome than before, she had frequent recourse to a stale and rancid cough-bottle, containing squill and ipecacuanha. During the evening and night she felt her dinner like an undigested load, and her stomach turned. She vomited, and was purged and griped incessantly, until I saw her next day. On the third day the medicines I had ordered moderated the purging, but the nausea and occasional vomiting continued. On the fourth day the purging had entirely ceased, but the sick-

ness of stomach persisted. I sought to appease this by the ordinary means, which failing, I examined her with care on the following day, and discovered a strangulated hernia. At this time the pulse had scarcely risen above the natural standard. Mr. Cusack operated that night with his usual skill, and all the symptoms depending on incarcerated hernia ceased. But they had scarcely disappeared when the pulmonary symptoms, and the copious secretion from the bronchial tubes, recurred, and she did not survive this relapse of the influenza more than a few days.

This is an instructive example of an insidious combination of circumstances very likely to mislead a practitioner. For as the vomiting was for a day or two accompanied by a looseness of the bowels, the suspicion of hernia would not strike the attention. It is plain that in this case indigestion produced an increased and morbid activity in the motions of the alimentary canal, which led to the incarceration of the portion of gut. Up to a certain moment the symptoms depended merely on one cause; after that period strangulation took place; an occurrence which could not be easily diagnosed, as vomiting, one of the most striking symptoms, had previously existed.

SPONTANEOUS EVOLUTION OF THE FŒTUS DURING LABOUR.

BY M. VELPEAU.

[From La Presse Médicale.]

THE value and the mechanism of spontaneous evolutions are, it seems to me, sufficiently unknown to make the observations which have been addressed to me since the publication of the second edition of my *Traité d'Accouchement*, interesting to your readers. It is a proof that this phenomenon is less rare than is generally conceived, that to the three cases here transmitted to you, two more may be added, which M. Bleyne has communicated to the *Gazette Médicale*. First, let me state, in a few words, what must be understood by *Spontaneous Evolution of the Fœtus*. We may admit, I think, two kinds of it; one comprehending all the cases in which the fœtus really changes its position, which deserve the name of spontaneous version rather than that of evolution; the other relating to the cases in which a part at first far removed becomes engaged in the pelvic strait, without displacing that which was there before.

In the first species of evolution, almost the only one of which there is a clear notion in France, the fœtus completely changes

its place. Sometimes it is the head which rises, while the buttocks descend; sometimes, on the contrary, the buttocks leave the neighbourhood of the strait, and the head becomes engaged in it. Two varieties may consequently be established under this species, one for the head, the other for the pelvis; and we might describe separately the spontaneous cephalic version, and then the pelvic, if their details had been better studied. One of M. Bleyne's observations belongs to the first of these varieties.

In this case the spontaneous version of the fœtus is easily explained. The head of the fœtus being the most solid and voluminous, and most regularly rounded part, and consequently the most easily sliding, naturally tends towards one of the two ends of the great diameter of the uterus, and usually towards the cavity of the pelvis. If, under the influence of any cause, it has taken another position, it is very simple, that, pressed by the organ containing it, it should gradually and without much difficulty regain the place which it occupies in the normal condition of parts. When the uterus contracts, if the foetal ovoid be well situated, it is compressed equally every where; but if, on the contrary, it deviates from the best position, its extremities bear almost the whole effort of the contractions, and unless the shoulder, which on its part projects sufficiently to be stopped at the strait, be forced into it, the head or the pelvis almost always will be.

In evolution, properly so called, two very distinct varieties are also found; one for the head, the other for the pelvis.

In the first, the head, at first far distant from the pelvic rim, descends at last into it, without the part previously engaged in it rising or being sensibly displaced. The cases published are sufficiently authentic to authorize me to admit this as a distinct variety. After having seen the shoulder or the top of the sternum filling the hollow of the pelvis, and arriving even at the vulva, practitioners have been able to convince themselves that traction exercised on the fœtus, or the violent efforts of the woman, were capable of causing the advance of the head, and that then this part gradually gets clear of the pelvis, descending from neck to vertex, without the chest quitting the hollow of the pelvis.

The second variety of spontaneous evolution, which is the most frequent and remarkable of all, is that where the shoulder, fixed in the excavation, or even at the vulva, does not prevent the fœtus from passing out by the pelvis. It is this variety which has of late occupied special attention, having been confounded with spontaneous version.

The attentive observation of what passes in such cases, and experiments on the dead body, prove that—1st, the shoulder begins by descending to the vulva, till the side of the neck and the upper surface of the clavicle or acromion take a fixed point of support on one of the sides of the inferior strait; 2d, the nucha, or the anterior part of the neck, with the top of the chest, may do the same when the arms have passed out either before or behind; 3d, the contractions of the uterus, and of the muscles, then acting on the pelvis, which is the most elevated, and the only moveable part, without permitting the head to rise, force the chest to bend, and becoming flattened, to descend, and present itself at the inferior aperture, and then at the vulva; 4th, the foetus, once doubled, the abdomen, pushed on in the same manner, arrives in the hollow, and then at the vulva, while the thorax continues to unbend and straighten itself externally; 5th, the buttocks following the movement, in their turn become engaged in the pelvic cavity, resting on one of the ischiatic notches, and passing from above downwards, by a kind of rocking motion, into the inferior strait and to the vulva, after having distended and violently compressed the edge or side of the perineum opposite to that which serves or has served as the fixed point to the shoulder or neck.

To comprehend this mechanism, it is sufficient to imagine an elastic and flexible rod or spring, one of whose extremities is fixed on one of the sides of the hollow or straits of the pelvis, while the other extremity is forcibly acted on. Thus fixed and rendered immoveable at one end, this rod will bend under the power supported by the other, and will present its convex portion at the vulva, till it can unbend there entirely. The trunk of the foetus and the flexible spine just resemble such a rod. The head and shoulder form the fixed extremity, and the pelvis, and then one of the haunches, the extremity which has to support the power, while the intermediate portions unbend and disengage themselves at the vulva.

CASE I. (communicated by M. Capuron.) —“In April 1837, Professor Velpeau was called in the night to the village of Bievre, near Paris, to terminate an accouchement. He begged me to go for him, being unable to absent himself from his duties at La Charité, and I left Paris at two in the morning, and was three hours on the road. On my arrival I found that the woman had been delivered an hour since. The *sage femme* and two physicians, who had passed the night with her, told me that the labour lasted two

days; that after the rupture of the membranes, which had occurred in the evening, the arm of the child had passed out of the vulva; that they had not dared to return this limb into the uterus, nor turn the child, and that at nine at night an accoucheur had been called from Paris. They added, that towards five in the morning the woman had uttered some cries and made some efforts, and that on going to her, they found the child entirely out of the vulva, except the head, which was still retained between the labia, which offered, however, no resistance. The labour had therefore been terminated of itself, or by *spontaneous evolution*, to use the expression of Denman. The placenta followed immediately after. The woman was in bed, and did not appear distressed. I was shewn the child, which was of more than the usual length and size. The arm, the top of the shoulder, the scapula, clavicle, and corresponding side of the neck and chest, were red, blackish, and deprived of epidermis. I know not what were the consequences of the labour to the mother.”

CASE II. (communicated by M. Capuron). “In 1835, a distinguished accoucheur in Paris boasted at a sitting of the Academy, that he had never met with an insurmountable obstacle to delivery, when the arm of the child had passed out prematurely. A short time after, an occasion presented itself of judging what foundation there was for such a declaration.

I was sent for to the Place Maubert, to a strong and vigorous woman, who had been two days in labour. I found there a *sage femme* and three accoucheurs. It was six in the morning; the right arm of the child was at the vulva, swollen, but not redder than natural. The *sage femme* confessed that she had made some traction on the limb, and two of the accoucheurs told me that they had endeavoured by turns, but in vain, to turn the child, so as to extract it by the feet. On touching the woman I found that the vulva and vagina were swollen, dry, and of rather an elevated temperature; that the external orifice of the uterus, soft, and surrounding the protruded arm, offered but little resistance, but that the internal orifice was strongly contracted, as was also the whole body of the uterus, where hard walls could be felt in the hypogastrium. The pains had ceased. After having examined the state of the uterus and the situation of the child, I called in the advice and assistance of the accoucheur above-mentioned, and he soon arrived. Immediately on his arrival he set about to terminate the labour, and made great efforts to seize the

feet, but was unable to effect his object. He made four successive attempts, but all in vain; the resistance of the uterus was insurmountable, and he had sat down to take breath again, when suddenly a gurgling was heard in the abdomen of the woman, followed by the fall of the child and of the membranes on the floor. The uterus had been so weakened, that it had no longer the power of retaining the products of conception, or of counterbalancing their weight. Some seconds later, the hand of the accoucheur, placed only at the entry of the vulva, might have received the child and its appendages, and he would have had the appearance of having terminated the labour, which was completed spontaneously. The child was in this case dead, and the mother expired a short time after."

CASE III. (communicated by M. Capuron). "In 1815 I was called to a woman in child-bed, near the Sorbonne, where I found two accoucheurs and a *sage femme*. The child presented the right arm, which was gangrenous, livid, and partly stripped of its epidermis; the top of the shoulder, the scapula, and clavicle, protruded from the vulva, and presented the same colour as the arm. The mother was weakened almost to death, both from the long labour, and on account of the manipulations to which she had been subjected, to relieve her.

After having given the most unfavourable prognosis on the condition of both the mother and the child, I placed the former in a convenient situation, and endeavoured to terminate the labour. I expected to find numerous difficulties; but what was my surprise when I felt that the shoulder and arm of the child, which were outside the vulva, re-entered the pelvis, and passed up into the uterus, without any resistance. I then seized the feet and turned the child, which was dead, and beginning to be decomposed. One hour after the mother was no more."

I may add, says M. Velpeau, to what M. Capuron has here said, that some contractions of the uterus might easily have effected what the hand of the accoucheur did here, and transformed this turning into a true evolution.

CASE IV.—This observation was addressed to me in October, 1835, by M. Giraudet, a very distinguished physician at Cusset:—

"I formerly followed your course with much zeal and assiduity; but I have been witness of a fact which I think escaped your knowledge. A professional brother, tired of being unable to terminate a la-

bour in which the arm had presented, sent for me. I went, and found that he had left, not wishing, as he said, to be witness of the death of the mother and the child. I endeavoured to turn; it was impossible, or at least after many trials I failed. A little *sage femme* came, with a small and delicate hand, but she had the same difficulties. Both fatigued, we left the patient, almost dying, to take some nourishment. Half an hour after we returned; she had been delivered alone of a fine boy, who was dead."

It is true that this kind of evolution is almost always accompanied by the death of the fœtus, and that the cadaveric softness and the flexibility which follow the cessation of life in all the organs, favour it considerably; but we should be wrong in considering that the death of the child is always the prelude, and not the effect, of the occurrence. The sanguineous tumor, pointed out by some authors, on the part which becomes first engaged, demonstrates clearly, in fact, that the children of whom they speak have still lived a long time after the descent of the chest into the strait.

Perhaps these facts may induce some changes in the practice in accouchements, when there is a presentation of the arm. In fact, when turning presents extreme difficulties, I think that it would be better to take care of the mother at the expense of the fœtus, than of the fœtus at the expense of the mother. On this subject I will put the following alternative: either it is actually impossible to overcome the constriction of the different points of the uterus, (and in this case it is not conceivable that the child should be still living, or can be brought away alive,) or the life of the fœtus is maintained, and here a successful turning may be possible without mutilation. In the first case, is the amputation of the arm to be had recourse to? I think not. The fœtus, being dead, should be extracted with as little risk as possible to the woman. I should wish in consequence, after such a decision, that turning should be given up to try evolution. Traction on the arm, after the manner of Fabricius de Hildanus, or Fichet de Flechy, a band passed over the trunk, as Peu advises, blunt hooks applied on the top of the chest, or the fingers themselves, should be successively tried to effect the descent of the abdomen and buttocks, or even of the head, if it shewed the least tendency to move on.

ON THE
DEATH OF THE CHILD OCCURRING
IN LABOUR.

BY JOHN ROBERTON,

One of the Surgeons to the Manchester Lying-in
Hospital.

THE opinions I wish to inculcate will, perhaps, be more readily understood if I state in the outset what is their general scope. It may be briefly expressed thus:—Having for a number of years observed that in tedious labour the life of the child occasionally becomes exposed to danger before the life, or even the parturient organs of the mother incur any degree of risk, I, therefore, conclude that the preservation of the child's life is, under certain circumstances, of itself *a sufficient reason for hastening delivery* by the employment of the forceps.

Treatises on midwifery furnish the accoucheur with rules for the management of tedious labour, but, in practice, such are not found very easy of application, owing chiefly, perhaps, to the nature of the subject, which is one of much complexity. An error, according to my opinion, in all rules of this nature is their having direct regard to the safety of the mother alone, while the safety of the child receives, if any, at best *incidental* notice. I know of no writer who has distinctly laid it down as *a practical truth* that, in certain cases, the mother may remain exempt from every symptom of constitutional or local injury, when the fœtus is actually killed from having been allowed to remain too long exposed to the action of the parturient organs. My remarks, the reader is to understand, have reference to labour where *the head presents, there being neither deformity or undue smallness of the pelvis, structural disease of the soft parts of the mother, nor unnatural enlargement of the fœtus.*

How the child was likely to fare in tedious labour in the hands of Smellie, may be imagined, since he has recommended turning whenever it is practicable. His words are, alluding to laborious labour produced by seven different classes of causes, "except when the pelvis is too narrow and the head too large, (provided the head lies at the upper part of the brim, or, though pressed into the pelvis, can be easily pushed

back into the uterus,) the best method is to turn the child, and deliver by the feet*."

In the valuable Outlines of Midwifery, by Dr. Alexander Hamilton, published long subsequently to the work of Smellie, we find the following rule: "As the safety of the mother is our only apology for using instruments, the forceps should never be employed but in the most urgent and necessitous cases†"; and in similar, though far stronger, language, Dr. Osborne dissuades from employing instruments "until the internal powers are absolutely and altogether exhausted‡." Denman writes in these words, "that cessation of the pains, which is the consequence of long continued fruitless action and of great debility, is to be considered as the only justification of the use of the forceps§." The present Professor Hamilton advises instrumental aid "when the pains no longer seem to have any influence in advancing the infant, the strength of the woman begins to decline," &c.|| Little different is Dr. Merriman's advice. He cautions us not to delay the use of instruments too long, "lest our patient be so much exhausted before they are applied as to derive no benefit from the operation¶." These are the directions of Dr. Blundell: "If, after the discharge of the waters, the woman have been in strong labour from twelve to twenty-four hours, she ought to be delivered on two accounts; 1st, because after fruitless labour for so many hours subsequently to the discharge of the liquor amnii, it is unreasonable to expect that the natural efforts will expel the child; and 2d, because when labour is suffered to go beyond a certain time, even though no danger has yet appeared, of a sudden, sometimes when all seems fair and smooth, the vessel strikes and founders**." Says Dr. Gooch, "If

* Works, vol. i. book iii. sec. 1. But Smellie was before his age in respect to employing instruments; for he was vehemently censured by Dr. Burton, of York, because he had recommended the forceps in preference to the fillet.

† Outlines, &c. p. 269.

‡ Essay iv. p. 53.

§ Midwifery, 6th edit. p. 254.

|| Outlines, &c. p. 51. In Dr. Hamilton's recent work we are advised, when the head is within reach of the forceps, to interfere "before there is a probability that the pressure may destroy the infant's life, and before any untoward symptom threaten the mother."

¶ Difficult Parturition, 4th edit. p. 162.

** Obstetricity, p. 530.

you apply the forceps merely because you think that the labour will not be completed naturally, it is an evil; but should you permit the occurrence of the injuries of protracted labour by withholding assistance, it is a much greater evil. You can never allow the symptoms of exhaustion, of inflammation of the peritoneum or vagina, to take place without the risk of their proceeding so far as to be beyond the control of art*." Dr. Power's directions are brief: "If the state of *the patient* becomes alarming, it will be prudent to expedite the delivery by artificial means†." In this, as in the directions of the preceding authors, the dangerous state of the mother is the warrant for employing instruments. The directions furnished by Drs. Dewees and Burns are of a different character. The former writes, "When the circumstances of the case require the use of the forceps, the application should not be too long delayed from an imaginary fear that the woman might suffer from their use, or from an ill-grounded hope that the woman may deliver herself; we should not, therefore, permit her to be exhausted, or the child to perish, because feeble or inefficient pains attend, or because the head of the child has not been six hours in the passage‡:" and elsewhere he reprobates Denman's maxim, that the forceps ought to be used for the mother's sake only. The directions of Burns are, as nearly as may be, to the same effect. Concerning the mother he says, "It is safer to extract the child with the forceps than to allow the uterus to remain long in action, whether that be regular or spasmodic, and whether it lead directly to exhaustion or ultimately to disease arising from irritation." In reference to the child, that "besides hazards to the mother from too long delay, the child is in danger of perishing, not from compression of the brain but from the continued pressure of the uterus, after the evacuation of the waters, interfering with the regular performance of circula-

tion*." Professor Burns' directions for the management of tedious labour have the merit of being minutely particular, while at the same time they are clear, and plainly the result of practical knowledge. Having had the pleasure and great advantage of listening to his oral instructions, and having also practised his precepts for nearly 20 years in the enjoyment (for the last 10) of an unusually ample field for experience, I hesitate not to avow that I regard his published directions, with respect to operative midwifery, as sound and valuable. Nevertheless, neither Dewees nor Burns fully recognizes the principle, that *a regard to the child's safety* may be a *sufficient reason* for hastening the labour by means of the forceps.

In the Manchester Lying-in Charity, and no doubt in all similar charities, the matron-midwives often call for the surgeon's aid when none is needed. By this teasing proceeding he is soon put upon his guard against listening to their calls as *necessarily* urgent, and, in the end, becomes perhaps over tardy in giving his assistance, suffering the mother's powers in all cases to have a fair trial, and occasionally delaying his help too long. It was in such circumstances as these that I was first led to observe, that certain patients whom I had visited at the midwife's summons, (and labour appearing to proceed naturally, I had refused interference) were, contrary to my expectation, delivered of dead children; an occurrence sometimes the more annoying from being assured by the mother, that the child was lively at the commencement of labour.

In such cases I could not but ask myself *what caused* the death? Without confiding too implicitly in the affirmation of the mother, it was impossible to avoid suspecting that, in some instances at least, death had been owing to the too long continued pressure of the uterus (emptied of the waters) on the funis and body in general of the child. I am persuaded that every experienced practitioner must have noticed similar results, and experienced the visitings of like painful surmises.

I had frequently seen patients continue in labour from thirty to fifty

* Compendium of Midwifery, p. 203.

† Treatise on Midwifery, page 180. See also Dr. Ramsbotham's Practical Observations, part i, p. 257; Dr. F. H. Ramsbotham, Lecture xxxiii. MEDICAL GAZETTE, vol. xiv. p. 265; Dr. Breen on Tedious Labour, Edinburgh Medical and Surgical Journal, vol. xv. p. 173; Davis's Operative Midwifery, p. 259; Campbell's Study, &c. of Midwifery, pp. 210, 211; Collins's Practical Treatise, p. 13.

‡ Compendious System, &c. p. 313.

* Principles of Midwifery, 7th edit. p. 416; also the whole of the chapter on "Instrumental Labour."

hours and upwards, the labour terminating favourably without assistance, while other patients brought forth children destroyed apparently in the passage, after being in labour less than half that time. On attentively considering the progress of labour in these two kinds of cases, it struck me that there was one remarkable difference between them; that in the greater number of tedious *favourable* labours, the early stages had been *slow*, the os uteri *opening tardily*, and the head of the foetus escaping out of the os uteri *late* in the progress of the case; while in those which, notwithstanding their comparatively early termination, resulted in the birth of a dead child, I found generally that *the early stage had been rapid*, that the os uteri had opened in the first few hours of labour, and hence that the head had remained in the vagina a greater number of hours than in the other class of cases. In short, I arrived at this two-fold conclusion, that the risks in a case are not to be reckoned from its actual duration; that one labour may be truly regarded as over tedious in fifteen or twenty hours, while another may not deserve that appellation at the end of fifty or sixty hours; and, also, that the life of the child, in labours of equal duration, is in most danger in such, *cæteris paribus*, as pass through the early stages with the greatest rapidity.

A case tending to strengthen these opinions, which, at times, had previously crossed my mind, fell under my care in June 1828. The patient was taken in labour at her full time, on Friday mid-day. On paying a visit, I found that the waters had escaped; that the os uteri was fully dilated; and that the head was in the cavity of the pelvis, taking the turn naturally. The pains soon ceased, and the uterus remained in a measure inactive till Sunday at noon, when strong action recurred, and in a few hours a full-grown foetus was born dead. There was every reason for thinking the child, judging from the appearance it presented, had been alive at the commencement of the labour, and of this also the patient declared her conviction. Owing to the length of time the head had remained in the cavity of the pelvis, after escaping out of the uterus, the blood had settled in the throat, face, and scalp, which were

swollen and of a venous hue; it seemed as if a great proportion of the entire blood of the body had been forced into the head and throat. Here the first stage of the labour was short, the waters passed off early, and the os uteri speedily dilated so as to permit the escape of the head into the vagina; the latter stage, therefore, was greatly prolonged. Assuredly there were no symptoms calling for the use of instruments, *as far as the patient was concerned*: the event was left to nature, and the child, I am of opinion, was sacrificed in consequence.

CASE II.—Maria Fagg, aged 20, healthy, and in labour of her first child: was called to her at 4 P.M. yesterday, September 18th, 1831, when I found the vertex resting on the perineum, where it had remained, according to the midwife, for about six hours. Finding the pulse calm, the tongue moist, and the skin cool and natural, as was the vagina also, I took my leave. This forenoon, the 19th, I am again summoned. The head presses on the perineum, but the pains, although they have at no time been wholly absent, are feeble. The patient appears fatigued, but there is no other unpleasant symptom whatever. In the course of the afternoon a large still-born male child was brought forth by the natural efforts. The patient asserts that the child was lively when the labour commenced. Was it not killed, partly by the head resting so long, out of the uterus, in the vagina; and partly by the severe pressure on the cord, such as takes place whenever the body of the foetus remains long in the grasp of the uterus after the evacuation of the waters?

CASE III.—November 14th, 1831. Yesterday afternoon, Mrs. T. aged 22, at the full time of her first child, suddenly, while attending public worship, about 3 o'clock P.M. felt the waters pass off. At 7 o'clock, *i. e.* four hours afterwards, I found the os uteri well dilated; the head in a good measure below the brim, and the forehead presenting towards the right groin. The labour went on briskly, inducing the hope that all would be over by midnight at latest. At 11 o'clock, however, the pains were in the hips and back, where they continued during the night and the whole of the next day, saving that towards the following evening they were in the seat, and caused excruciat-

ing suffering. The labour, notwithstanding, made some progress.—*Evening of the 15th*: the head of the fœtus had now been out of the uterus, in the vagina, for twenty-four hours. It was not, however, locked, for I could push it back, as also pass my finger round it. What was to be done? The mother was in no hazard whatever; the vagina was cool; and she was free from fever; but the friends were becoming impatient, and the child, it was natural to infer, was in danger. The pains, too, were again becoming weaker. For these reasons I slowly effected delivery with the forceps, twenty-nine hours after the rupture of the membranes, and twenty-three or twenty-four hours after the full dilatation of the os uteri. The child was still-born. It had been lively at the beginning of the labour. What caused death? The forceps were not the cause, for they were applied readily, and, notwithstanding the position of the head, the labour was completed with the same degree of ease ordinarily experienced in what are called short forceps cases. Had the forceps been employed ten or twelve hours sooner, the child's life, it is reasonable to infer, would have been saved.

CASE IV.—11 o'clock A.M. December 25th, 1832. Jane Taylor, aged 30, in labour of her fifth child: has always had lingering times, but not, strictly speaking, laborious. On the evening of the 22nd, *i. e.* upwards of fifty hours ago, there were signs of labour: in the evening ensuing the membranes gave way, and the head entered the inlet of the pelvis, the vertex presenting naturally. In this situation the head rested, and, owing to the flatness of the inner surface of the pubis at the symphysis, (by which I mean that the bones at the point of junction formed a more obtuse angle than is usual, a circumstance I ascertained by an examination with my finger,) it pressed on the urethra so as to produce complete retention of urine. The common silver catheter could not be introduced, and it required some trouble to draw off the urine with a small catheter of gum. At this hour, 11 A.M., *i. e.* about forty hours after the rupture of the membranes and the dilatation of the os uteri, on employing the catheter, I drew off half a tea-cupful of a reddish fluid, in nothing resembling common urine, but such as I have frequently noticed in tedious labour. Yet

the head was not impacted, it was simply a case of arrest; the labour pains were inconsiderable, and the patient, except for the pressure on the neck of the bladder, presented no symptom indicating a necessity for the use of instruments. It was to be inferred, however, that the child was in danger, arising from the length of time the head had lain in the pelvis, and the body (without the intervention of the liquor amnii) had been exposed to the pressure of the uterus. I first gave the infusion of a drachm of roughly powdered ergot of rye, but without sharpening the pains. I therefore employed the forceps, and with little difficulty brought down the head. The delivery was easily completed. The child, although the heart beat, could not be made to breathe, but the mother's recovery was in every respect favourable.

CASE V.—July 25th, 1833. Mrs. W. aged 19, healthy, and at the full time in her first pregnancy. At 2 o'clock A. M. labour commenced with sharp pains. Being out of town, a professional friend immediately attended for me, who found the uterus rapidly dilating. At half past 3 the waters passed off; at 6 the os uteri was well dilated, and the head began to press on the perineum. On my return at 9 in the evening, I found my friend in close attendance, the head resting on the perineum, and the pains teasing and inefficient. As the day had been very hot, the patient felt jaded, but the pulse and the skin were natural; nor was there any unpleasant symptom present whatever, except that the catheter had been repeatedly required. It was now nearly eighteen hours since the passing away of the waters; and the head had been in the vagina for fifteen hours. In all probability the labour would terminate by the natural pains and without injury to the mother: but was *the child safe*, in the event of the labour being much longer prolonged? I stated my fears on this point, and that as delivery might with great ease be effected by means of the forceps, there was no reason why the labour should not be brought to an end. My friend agreeing with me, the child was slowly, but without difficulty, delivered. It was in a feeble *precarious* state at first, but soon breathed. Both mother and child did well.

CASE VI.—Mrs. M. aged 25 years, of a highly nervous temperament, in

her first labour, June 14, 1834. The waters passed off in the evening, at which time the os uteri was well dilated, and the head coming naturally, and low in the pelvis. A skilful and experienced accoucheur was in attendance. On the following morning (the 15th,) at 9 o'clock, my advice was requested. The pains I found incessant and excruciating, situated chiefly in the back, hips, and belly. The patient was bathed in sweat, and her face was at times livid from suffering, of which, it was evident, she was extremely susceptible. The pulse was only slightly accelerated, and the vagina was moist and cool. The head of the fœtus was pressing on the perineum, but without advancing. The bladder had been emptied by the catheter, and about two hours prior to my visit the patient had taken an infusion of a drachm of ergot of rye. There appearing to be no call for interference, we decided to wait: and the patient was encouraged, and informed that it would be easy to deliver the child should such be ultimately thought proper. At 11 o'clock, having watched the labour for two hours, and finding the same kind of pains continue with unabated severity, and the head making no advance, her accoucheur, with my concurrence, applied the forceps, and slowly, and very gently, brought into the world a still-born child. The child, we were assured, was lively before the labour commenced; and this, taken with the appearances, left no doubt on our minds that life had been destroyed by the severe, irregular, uterine action, which had continued for about fifteen hours subsequently to the dilatation of the os uteri.

CASE VII.—Mrs. A. aged 26, of a slender and very delicate form, was taken in labour, her first, June 20th, 1835. The waters had passed off without a pain the preceding evening (the 19th), and it was not till about two o'clock P. M. of the 20th that pains came on, which continued slight till 6 o'clock. At 8 o'clock I arrived, and found that the head (the presentation was natural) rested at the outlet. The pains being uterine and regular, although feeble, I hoped the labour would be short and favourable: but within an hour they became spurious, violent, and, literally incessant. The patient appeared in an agony, uttered piercing screams, and evinced much irritability of temper. The head, notwithstanding

this, slowly advanced, and by 12 o'clock distended the *os externum vaginæ*. Being several miles from home, and fearing I might need forceps, I sent a messenger for a pair: meanwhile I administered the infusion of a drachm of ergot of rye: the severity of the pains, which the patient referred chiefly to the back, hips, and sphincter ani, became excessive, and was expressed in most affecting cries. A little before 2 in the morning my forceps were handed to me; when I immediately prepared to introduce them, and terminate her sufferings. But at the moment I was about to pass the first blade it became evident that the head would quickly be born by the natural pains, and this accordingly took place in a few minutes. The infant was a slender female. The funis I thought pulsated faintly at first, but breathing did not ensue; and though the usual means of resuscitation were pursued, they proved ineffectual.

After waiting two hours for the after-birth, it had to be extracted by the hand. The patient recovered in all respects favourably, and has since had a living child: the labour easy.

CASE VIII.—Mrs. F. æt. 27, tall and powerful, in labour of her first child. At 6 o'clock A. M. (March 15th, 1836) had pains. About 12 o'clock, when I arrived, the os uteri was dilated to the size of a crown-piece; the pains, chiefly in the hips and thighs, were severe and nearly constant. By 2 o'clock the pains, of the same irregular kind, were most distressing: and an hour later she seemed to be in agony, complaining that her hips and thighs were tearing with cramps. The os uteri being fully dilated, and the head at the bottom of the pelvis, I ruptured the membranes at the beginning of a pain. The pains, however, continued spasmodic and increasing in severity, so that her screams were truly distressing. I now gave half a drachm of ergot of rye, infused in a tea-cupful of water. From this period the head continued slowly advancing, but not in a degree corresponding to the urgency of the pains, which nevertheless were only partially uterine. At 7 o'clock, as there was no progress perceptible, she had another dose of ergot.

At 9 o'clock the vertex rested *at*, but did not *distend*, the orifice of the vagina, and the patient's sufferings were unabated. As there was no sign that delivery was likely to occur soon, and

fearing for the safety of the child, I resolved on employing the forceps. Accordingly, without difficulty, I brought the head through the os externum vaginae, the uterus beginning to act strongly as soon as the head advanced so as to distend the orifice. The child, a very large male, was dead, but with all the signs of having been recently alive; as, indeed, the mother assured me had been the case before the escape of the waters.

The incessant irregular uterine efforts acting upon the funis in the latter hours of the labour, were I imagine solely the cause of death. The mother had a favourable recovery.

CASE IX.—October 11th, 1835, 4 o'clock P. M. Mrs. F. æt. 20, healthy, and in her first labour. Several days ago the waters dribbled off, and it was not till yesterday that labour commenced. At 10 o'clock last night, her accoucheur informs me, the pains were regular and of moderate strength; and about 6 o'clock this morning the head slipped through the ring of the os uteri, but it was 12 o'clock before the head descended so as to rest on the bottom of the pelvis. At that period a small dose of ergot of rye was administered, and, after a short interval, the same was repeated: the pains in consequence revived; but at this hour (4 o'clock P. M.) the head can hardly be said to press upon the perineum. The patient is flushed, and, contrary to her ordinary temper, she is becoming impatient: the vagina is hot, and a mouthful of fluid is now and then being ejected from the stomach. The foetal head has been ten hours out of the uterus. Being called to give my opinion I hesitated not to advise the application of the forceps, stating it as my conviction that longer delay would endanger the child. Accordingly the forceps were applied, and the child slowly and cautiously (traction being made only during a pain) brought into the world. It did not breathe for a few seconds, but soon became lively.

In these nine cases all the mothers recovered favourably. Their labours were in every respect propitious, as far as *their own persons* were concerned; nevertheless, seven of the children perished, and the remaining two were in jeopardy.

The following brief remarks are submitted for the reader's consideration:—

1st. It is chiefly, but not exclusively, in a first labour that the life of the child may become endangered before there are symptoms calculated to render the mother an object of anxiety.

2nd. Danger, in such instances, is caused by the pressure of the uterus (emptied of its waters) on the child's body, the head being, generally speaking, in the vagina.

3rd. And this danger, it is almost needless to remark, is greater, in these circumstances, in proportion to the force and constancy of the labour pains.

4th. Further, that kind of labour called by Dr. Power "metastatic" (in which the uterus, although not forcing evenly and expulsively on its contents, causes severe pressure,) endangers the child's safety perhaps fully more than labours attended with regular pains.

5th. After the head is lodged in the vagina, and the pains (whether regular or metastatic) are severe, incessant, and yet inefficient; and when this state of things has continued during several (suppose from four to six) hours, then the child is to be regarded as in danger; whereas, if the pains are feeble, and occur with considerable intervals between, danger to the child need not be apprehended in twice that number of hours.

6th. If the os externum vaginae is well dilated, and the vagina naturally lubricated, it is desirable to give the ergot of rye a trial; but when the orifice is rigid, and the vagina dry and hot, indicating considerable physical resistance to the escape of the child, its administration may endanger the child's life.

7th. The forceps, in the kind of impediments where there is neither deformity or undue smallness of the pelvis, structural disease of the soft parts of the mother, nor unnatural enlargement of the foetus, (and it is such labours only that my remarks refer to) are easily applied, and, in skilful hands, are a safe resource as respects both the mother and child. The precise time when they ought to be employed must be left to the judgment of the practitioner. If too early, he will have to encounter unnecessarily great resistance; and if too late, he runs the risk of assisting into the world a still-born child.

Lest it should seem that I am countenancing a rash and precipitate use of the midwifery forceps, and recommend-

ing practitioners to take into their hands this instrument without mature deliberation, I will add a few sentences by way of caution.

Operative midwifery is, in a sense, a department *sui generis*, differing materially from other branches of surgery. To perform an obstetric operation with safety requires considerable practical experience, and the reason is, that unlike what happens in other branches, the eye lends no aid to the mind; the touch is the operator's only assistant. In the next place it requires coolness in the greatest degree; and, on account of the important organs liable to be injured, it requires *caution*, and a *perfect command* of the instruments employed. In this respect the accoucheur might profitably take a lesson from the dentist; for the latter works with his sharp instruments in the mouth with the utmost facility and security, cutting, boring, scaling, in such way as to alarm a bystander for the safety of the soft parts; but the mastery he possesses over his instruments enables him to operate with perfect safety to his patient. In many obstetric operations, particularly where the perforator, crotchet, craniotomy forceps, the blunt hook, or the exviscerating knife, is used, the very same, or even a more perfect mastery over the instrument is essential, in order to avoid the most ruinous injuries to the mother. Moreover, in almost all operations, save those in midwifery, dispatch is desirable. The surgeon who amputates a limb or cuts for the stone with the greatest rapidity, is, *cæteris paribus*, the best—the most desirable operator. Not so in obstetric operations. In general, that the operation be *slowly* conducted is essential to its being *skilfully* conducted: the object, particularly when the forceps are to be employed, is to *aid* nature; or, should it happen that nature is asleep or exhausted, to perform her office for her, imitating her *slow, progressive, almost imperceptible* pace. There is another point not to be overlooked: none but men of honour, men possessed of a sensitive conscience, are fit to be entrusted with obstetric operations; since every thing has, necessarily, to be done *in the dark*. The result of an operation, even when most calamitous, cannot easily be made a subject of scrutiny by others, without invasion of the modesty and reserve natural to the patient. When every thing, therefore,

depends upon the honour and skill of the operator (shielded in a measure from the ordinary and salutary check of criticism) how essential it is that he should possess both! Of one thing further I may remind the reader: mothers—the kind of patients the accoucheur has to do with—are *something more* than ordinary patients. They are unquestionably the most important members of society: on many accounts *their* lives are precious beyond all comparison. They are not only the foundation stone of the family structure—they are but too often the very cement that holds it together; and the accoucheur who through unskillfulness, rashness, impatience, or negligence, destroys the life, or seriously injures the organs, of a wife and a mother, deserves,—I do not say he *will receive*, because the mischief he perpetrates may be only imperfectly known,—but I say he *deserves* a double proportion of obloquy and disgrace.

NEW CRYSTALLINE SUBSTANCE IN SMILAX ASPERA.

To the Editor of the Medical Gazette.

SIR,

BEING lately engaged in the preparation of an extract from the root of the *Smilax aspera*, my attention was arrested by the appearance of a crystalline substance in the condensing vessel of the apparatus in which the process was conducted. This substance appears to be possessed of characters somewhat different from those of any other with which I am acquainted. Before, however, I proceed to detail them, it may not, perhaps, be deemed irrelevant to premise a few words in reference to the history of the *Smilax aspera*, a vegetable substance with which it is more than probable many of your medical readers are but little if not at all acquainted.

The root, called *Smilax aspera*, East India Sarsaparilla, or Nanari, as it is denominated by the natives of the Malabar coast, was, I believe, first imported into England about seven years ago. In the Number for January, 1831, of the Medical and Philosophical Journal,* a short account of its medical effects

* Vol. 65, page 189.

was given by Dr. Ashburner, and at the same time a brief statement by myself, of some experiments made with a view to determine the chemical characters of this species of *Smilax*. Since that period the *Smilax aspera* has continued to be much employed, and, I believe, with signal advantage, by many medical practitioners in and about the metropolis; among others I may mention Mr. Belinaye, who has very extensively prescribed it, and whose observations, in conjunction with those of Dr. Ashburner, with regard to its properties, have been recorded in the pages of the *MEDICAL GAZETTE**. It is represented by the medical men who prescribe it as possessing in a higher degree the medicinal virtues of sarsaparilla,—to be at the same time tonic and diuretic. It has been prescribed in syphilis, pseudo-syphilis, cachexia, &c. One medical gentleman has employed it in combination with liquor potassæ (the formula is annexed†), with great success in gonorrhœas.

The *Smilax aspera* differs materially in appearance from the Lisbon and Jamaica sarsaparilla of the shops, but is still more distinguishable by its sensible properties. The ordinary sarsaparilla is almost entirely destitute both of smell and taste; while, on the contrary, the *Smilax aspera* imparts an agreeable and somewhat almond-like taste when chewed, and emits a pleasant aromatic odour, not unlike that of the peach blossom.

This smell and taste appear to be due to the presence of a peculiar volatile substance, to which I have already alluded, and to which I think there is great reason to believe the medicinal powers of the *Smilax aspera* are mainly to be ascribed.

The substance in question is capable of existing under the form of a crystalline solid at ordinary atmospheric temperatures.

Some of its more salient characters are the following:—

It communicates a strong pungent taste when applied to the tongue, and a sensation of nausea, attended by some degree of vertigo, is quickly produced. It is highly odorant, and immediately

upon smelling it a considerable degree of irritation of the Schneiderian membrane and fauces is sensibly felt.

In cold distilled water it is sparingly soluble, but is much more so in warm.

In alcohol it is abundantly soluble at all temperatures; and from its solution in this menstruum it crystallizes in the form of flattened quadrilateral prisms.

Its solutions, both in water and in alcohol, slightly redden litmus paper.

Sulphuric æther, the essential and expressed oils, also dissolve it with great facility.

In concentrated sulphuric acid it readily dissolves, and the solution, when heated, acquires a deep blood-red colour, which, when slightly diluted with distilled water, assumes a pinkish hue.

At a temperature of 105° F. it melts, and remains fluid at many degrees below that point; but if touched with the extremity of a glass rod, it instantly and rapidly returns to the solid crystalline state,—the crystals diverging in all directions from the point of contact.

At 150° F. it gives off vapour, and becomes entirely volatilized below the heat of boiling water. With potash, soda, and ammonia, it forms compounds, which appear to be crystallizable; with the former it yields rhomboidal crystals, permanent in dry air, but slightly deliquescent in a humid atmosphere.

From the foregoing characters, this substance* appears to be more nearly allied to the class of acid bodies than to any other, and therefore until its habits have undergone a more minute investigation, and the proportion of its elements been ascertained (which I propose to do at the earliest opportunity), I would in the meanwhile venture to designate it by the name of *Smilasperic Acid*.

I may take this opportunity of observing that the only active principles hitherto discovered in the officinal sarsaparilla, are the *Pariljine* of Palatta, and the *Smilicine* of Folchi, neither of which substances, I believe, have any resemblance to the one now described as existing in the *Smilax aspera*.

A. GARDEN.

372, Oxford-Street,
Aug. 15, 1837.

* Vol xii. p. 370.

† R. Liquor. Potassa, min xxx. ad dr. i.; Aq. Flor. Aurant. oz. i.; Syr. Smilac. Asp. oz. v. M. Sumat. cochl. ij. amplat'er quatuor in die, c. Cyatho Decocti hordie magno.

* An easy method of obtaining it is, to receive the water distilled from the root into a vessel partially closed, taking care to preserve the receiver at a low temperature.

NOTES ON INDIAN MEDICINE.

BY D. W. NASH, M.R.C.S.L.

Two causes of fever are not unfrequently to be recognized in Native hospitals, which can rarely occur among Europeans in India. They are both mental affections, *nostalgia*, or perhaps more properly *nostepithumesis*, a word which better signifies that vehement desire to return home which characterizes the disease, and *superstitious fear*.

The first is remarkable among the young recruits who have come down from the northern provinces to enter the ranks of the Nizam: inhabitants of a wild and mountainous district, the descendants of a poetic and a chivalrous race, who in the olden times were the warrior tribe of Hindostan, the renowned and once mighty Rajpoots, they bitterly feel the separation from their childhood's home, and sometimes pine away under an affliction to which medicine brings no relief.

The deep affection which these people entertain for their native homes, and for the ties which endear them to their native soil, is visible in the fact that a northern sepoy while serving in the Deccan is almost always a most frugal and even parsimonious character; out of his pittance of seven or eight rupees a month, he contrives to save by far the greater portion to transmit to his parents or relations, and to lay up a fund against his return at the expiration of his term of service.

The Moosulmaun, on the contrary, whether from Delhi, from Lucknow, or from the cities of the Deccan, is gay, reckless, and extravagant; a true soldier of fortune, the recollections of his home are transient, and its associations comparatively powerless; and in him the desire of returning to the scenes of his youth is not so strong or so enduring as to become the source of mental suffering and bodily disease.

The disorder which thus arises is to be classed among the low typhoid fevers not accompanied by any prominent affection of any particular tissue or set of organs. The pulse varies in character; the tongue is white and languid; the appetite impaired; the digestive functions disordered; the patient is out of spirits, moody, and unwilling to exert himself. Brooding over the subject of

his anxiety, his countenance becomes haggard; his muscular strength diminished; and he daily becomes more and more a prey to the melancholy which has taken possession of him, and the physical sufferings which it entails. Hold out to him the prospect of returning to his home, and his looks brighten and his eye sparkles; destroy his hopes, and his worst symptoms instantly reappear.

Dr. Malcolmson, the late secretary to the Madras Medical Board, alludes in his able letter "on the Effects of Solitary Confinement," &c. to the great mortality which took place among the soldiers of the Pasha at Judda, in Arabia. I myself saw those men at the same time with Dr. Malcolmson, and would add to his judicious observations, that moral causes are to the full as active as physical ones in producing a terrible mortality in the Egyptian army. The Egyptian fellahs are, in spite of poverty and grinding oppression, much attached to their native soil, and so also are the wild and savage Nubians.

These latter, hunted down in their villages by the fierce hordes under the rule of the Pasha, their wives and children murdered, their houses fired, themselves heavily fettered and dragged away as slaves, are shipped from the Abyssinian coast, and carried to a foreign shore, where they are subjected to a system of military law, and an unceasing drill. No wonder that, under such circumstances, their spirit harassed and broken by such dire calamities, they should yield to physical causes of disease, which in their own homes and under happier auspices would not have affected them. Their diet and allowance of food is certainly more ample and of better quality, as soldiers, than when labouring in their native country, or trusting for subsistence to the precarious chances of a savage life; but the mind is no longer the same; their elasticity of spirit is gone, and they bend to rise no more, before the lightest breezes of adversity. Fortunately the system of recruiting in India is entirely voluntary, and there is always a great surplus of candidates for the vacancies which occur in the ranks: the nostalgia among the Hindoo sepoys is, therefore, pure, and unmixed, as among the Egyptian and Nubian soldiers, with mental despondency originating in other

causes than the mere desire to return to their native country.

I have already observed that this affection is not often noticed among the Mahomedan portion of the soldiery; indeed, I have never witnessed it in any but Hindoo sepoy. But if less liable than the Hindoo to disease from such a cause, the Moosulmaun of India is equally under the influence of a most debasing superstition, and this is often the cause of serious suffering in the native ranks, and among the native population generally. The comparatively pure creed of the Moslem, as received from the prophet of Mecca, and acted upon at this day in Persia and Arabia, has in India been so combined with, and adulterated by, the gross and extravagant superstitions of the Hindoos, that the main features of the true faith are there obscured by a long and close intimacy with the idolatrous worshippers of Mahadeo and Vishnoo. So strongly, indeed, are all classes of Mahomedans in India imbued with the superstitions of the soil, that I have known a Mahomedan prince of high rank, the Nawaub of Ellichpoor, make a pilgrimage to the shrine of the Hindoo goddess who presides over the small-pox, on the occasion of one of his children being attacked by that disease.

Several cases have come under my notice very remarkably portraying the power of mental affection in the production of disease. In almost every regiment, and in every native community, will be found one or two men who pretend to have this power of exercising a supernatural influence over their fellows, so as to be able to afflict them with disease and misfortune. Such men are a great plague in a regiment, as they possess great influence over the minds of the others, and are much dreaded and respected.

A decrepid old Hindoo of my acquaintance was a great magician in this way, and had, it was said, killed three men by the force of his incantations. This was by no means an improbable statement, for I have seen the strongest men brought to the edge of the grave by similar means, though of course the supernatural part of it existed in their own imaginations. A small lemon stuck full of pins, and a little red paint placed before the door of a hut, is enough to frighten its inmate, though

brave enough before the enemy, into a fever.

A remarkable example of this occurred in my regiment:—

A recruit, who had for some time been waiting for a vacancy, to enter the regiment, was kept in pay by the adjutant on account of his great strength and his abilities as a wrestler. He was what is called a *paihlewan*, or champion, and had repeatedly challenged the whole camps to wrestle with him. This fellow had not been long in the regiment before he came into hospital. He complained of head-ache, nausea, loss of appetite, and fever all over him. He had a whitish tongue and a small pulse, but what struck me most was the change in his countenance, from the bullying daring look he had always possessed, to a melancholy and half frightened appearance. For some time I treated him with quinine, acids, &c; but the patient continued to get worse, until he was reduced almost to a skeleton. As I had before seen a similar case, I commenced inquiry in the regiments as to what was the matter with the *paihlewan*, and was informed by some of the men that he had been *jadoo'ed*, or spell-bound, by the *havildar* major of the regiment, who was a notoriously powerful enchanter. By dint of much cross-examination, and threats of administering an enema (which the natives hold in great dread, as they think it causes the liver to burst) my patient informs me that such was the case, and that he should never recover until he could procure some ashes from the fireplace of the *havildar* major, to rub on his forehead. Finding that medical treatment was of no avail, I told the man he should have his wish, but warned him that if not cured in that way, he would be brought to a court-martial for malingering, to which he readily consented. I sent him under surveillance to procure the ashes which he employed in the most approved manner, and instantly commenced to recover. All symptoms of fever left him; he became cheerful, rapidly regained strength, and returned to his duty. Had I refused his wish, and looked upon it as an absurdity not to be complied with, the man would most undoubtedly have died. There is a circumstance which appears to me deserving of notice with regard to the

state in which Hindoo soldiers sometimes return to their regiments after leave of absence. These men, after spending the time allowed them in their own country, set out on a journey of perhaps several hundred miles to return to their duty. This journey is to be performed on foot, and as the sepoy has spent or distributed his little savings among his own people, it is to be accomplished with the smallest possible expenditure. Many sepoys, indeed, have no other food on this long and painful march than a little parched grain, a kind of pulse—the usual food of horses in India. The consequence is that they arrive in camp in a most exhausted condition, and generally suffering severely from dysentery. Perhaps for a day or two they remain in the lines, until their inability to perform any kind of duty attracts the notice of their native officer, and they are transferred to the hospital. Now suppose a medical officer unacquainted with the Hindostanee, or perhaps, as is sometimes, though I believe now very rarely, the case, disdaining to ask any questions, or to make any inquiry about the history of the patient, beyond feeling the pulse and looking at the tongue, were to prescribe any kind of evacuant medicine, or merely to neglect the proper restorative treatment, the patient would immediately sink. Even with the greatest care and most attentive treatment, they will frequently sink rapidly, and expire under your hands within a few hours after their appearance in hospital.

There is perhaps no officer in the Indian army, to whom an intimate acquaintance with the native languages of that part of the country in which he may be placed, is of some importance, whether as regards the good of the service or his own individual comfort, than the assistant surgeon, and it is extraordinary that the Indian authorities do not render such knowledge as imperative on him as on the military officer.

The medical history of a native of India is always so mixed up with the peculiar customs and habits of the tribe or cast to which he belongs—there is always so much difficulty in arriving at a knowledge of the concomitant circumstances or previous history of a disease, and so little dependence to be

placed either on the information or industry of the subordinates of a native hospital—that an assistant surgeon in India, ignorant, or nearly so, of the language of his patient, is, however skilful, and however zealous in his profession, cut off from half the resources of his art.

Cheltenham,
August 10th, 1837.

MEDICAL GAZETTE.

Saturday, August 26, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

ON EXPERIMENTS ON LIVING ANIMALS.

It was with inexpressible disgust that we read, not long since, in one of the daily papers, an account of some person being employed in delivering popular lectures on the action of poisons, which he illustrated by subjecting different animals to their effects. Such practices as these cannot be too strongly reprobated. Experiments on living animals are justifiable only when performed to obtain facts previously known, or which the observation of the body in health, or disturbed by accident or disease, could never, or only after a very long period of attention, acquire, and even then only when made by those who are capable of drawing from the data which they afford, just and secure conclusions. The former of these, popular lecturers (on subjects of this class) never seek; they do but illustrate that which every one already knows, and which is established on good authority; the latter they cannot do, for they are almost invariably ignorant men, shining only among those still more ignorant, though less vain than themselves. Again, we hold experiments on living animals

unjustifiable when performed by those not fully acquainted with all that is at the time known on the subject they are investigating; hence they ought never to be adopted merely as a shorter road to that which further reading might give, nor by those who have not already evidenced their attainments in the particular subject under examination. If these and some other rules, which common sense and the slightest humanity will supply, were attended to, we feel assured that that foul spot on our profession which permits it to be too justly accused of cruelty would soon be removed.

Of modern vivisectors the most deservedly notorious is M. Magendie, and he presents, in his single practice, a compendium of all that is odious in this mode of investigation. He yearly delivers a course of lectures, which he illustrates by experiments on living animals (chiefly dogs) whose effects are already universally known and received: though to render his lectures palatable to a small class, chiefly non-professional, he pretends that what he advances is disputed: he makes no attempt to alleviate the pain suffered by the miserable creatures that fall under his hands, but will look on with a careless *sang froid* while they are writhing in the most horrible tortures; and all his investigations are undertaken in so indefinite and unphilosophical manner, that we would never adopt for ourselves a single conclusion at which he professed to have thus arrived, unless it were confirmed by others, or was the experimental demonstration of something otherwise proveable.

But M. Magendie is not without reputation, and is, we know, held in such esteem by some, that we must fortify our remarks by facts. For his unnecessary repetition of experiments to prove things long since generally received,—

we have seen him hold dogs in torture through nearly the whole hour of his lecture, to prove the elasticity of arteries, and to show the character of an arterial jet of blood. Now who has not himself proved the first on the dead body, and seen the last in the living man? And yet he tells a *popular* class that he is the first who has clearly proved this. Of his unnecessary cruelty,—last winter, he was repeating M. Poiseuille's experiments on the power of the current of the blood in the arteries, which have been long known, when, to determine an absurd and erroneous idea of his own, he injected a pint of warm water into a dog's veins: the result was what common sense would have anticipated, but the exact reverse of what his experimental physiology had led him to expect, so he turned off his ill-concealed annoyance at this public failure, by a sneer at physicians and their theories, and said he would shew, *in fact*, what they only talked of—the effects of coffee. He then injected half a cup of warm coffee into the same vessel: and scarcely waiting even to see its effects, he cried out, that most people who took their "*demi-tasse du café*" in the evening, took "*un petit verre d'eau de vie*" with it; and he forthwith injected a glass of strong brandy into the vein. The agony it produced was, we need not add, truly horrible, yet the poor creature's howls were received with only a vulgar laugh from the lecturer, and the greater part of his inured class.

Some years since, when he was in England, the following scene was witnessed at the Windmill-Street School of Medicine. A dog was lying on the table, with an incision made along the back, from head to tail, through which the vertebral arches had been removed, to expose the spinal cord and the roots of the nerves. These M. Magendie was ingeniously irritating in every

possible manner—pinching, pricking, and pulling them alternately; while the piteous yelling of the poor animal, and his angry exclamations, and the noise of the ill-managed resistance to the dog's struggling, were defying description. At last the operator, looking round, as if a bright thought had just struck him, and pointing to the dog, who kept howling in spite of his remonstrances, exclaimed,—“Ah! Mon Dieu, il n'entend pas Français.”

But we have said that his experiments are indefinite and unphilosophical: we have seen him performing one on the lungs of a dog not yet recovered from a nearly similar experiment just performed: and in fact he never attends to the previous condition of the subject, and he takes no account of the effects of a hundred collateral circumstances that influence the results obtained by these means—as loss of blood, &c. Take, for example, that experiment, where, to show that vomiting (as is well proveable otherwise) is the result of external pressure on the passive stomach, he altered the peculiar position of the œsophagus, which is at all times a chief preventive of vomiting, and placed between the ends of it and the duodenum a pig's bladder. It would have been, indeed, marvellous, if the fluid had not run from this bladder out of the dog's mouth when it was *supported*, and a little pressed by the hands. In short, he almost appears to us to have cut up live dogs at hazard, and just taken what happened to come, without caring for its source.

We make this gentleman, “le Brigand du College,” as his co-patriots call him, the scape-goat of the whole class, with less compunction, because we believe he cares as little for the remonstrances of humanity as for the yells of suffering; but both in his own country, and we fear in this, there are many who deserve exposure.

However, our horror at vivisections is not universal; and we only need refer to the discovery of the circulation being made almost entirely “*multa frequenter et varia animalia viva introspeciendo*,” and to the numerous portions of physiological knowledge which it has led to or confirmed, to make it justifiable (under the conditions we have mentioned), to any person of common sense. It is useless to argue with those others who talk of its being contrary to the best feelings of our nature; forgetting that it is in some cases better to obey the dictates of reason than of the most excellent and strongest of our feelings or affections.

We could half forgive M. Magendie—and the very dogs who now “bark at him as he halts by them,” would perhaps absolve him for his past offences against their race—if he would publish some account of how any portion of the cruelty necessary in these experiments may be avoided; for though he has not sought to practise any such means, yet his experience must have taught him many which others would be happy to adopt.

We can, from what we have seen ourselves, strongly recommend a few: for example, in nearly all experiments on the action of the heart, respiration, and the majority of the thoracic and abdominal viscera, the animal should have the spinal cord divided just below the medulla oblongata. It is an operation easily done, either with a knife or a strong pair of scissors, deprives the animal immediately of all sensation (at least in the parts below the wound), and yet life will be maintained after it for a time fully sufficient for the performance of a large majority of these experiments; and, if artificial respiration be carried on, the action of the heart may be maintained very nearly as long as with the cord entire. This plan, too, is perfectly adapted to the

majority of cases in which the functions of the spinal cord and its nerves are to be examined, and was that which Sir C. Bell had almost always recourse to. In short, where the life of the animal is necessarily to be sacrificed, this method may and ought to be almost invariably adopted.

For a great number of experiments on the nervous system, it would be far preferable to employ frogs: these will live for hours after they have been completely deprived of sensation by the division of the upper part of the spinal cord, and, with delicacy and careful manipulation, give more accurate evidence than other animals which are more affected by the loss of blood, from severe operations. At particular seasons, in the beginning of spring, just before the time of copulating, and to a slighter extent in the cool autumnal months, their nervous systems are endowed with the most remarkable irritability. The slightest touch will at this time produce the effects of powerful excitants at others, and they are thus made the most admirable indices of sensibility. A nearly similar condition may at any time be induced in them by the administration of strychnine or opium.

Much economy of life, and some humanity, may be practised, too, by making the same animal serve more than one purpose: for example, if he have been subjected to one experiment, for which a post-mortem examination will be necessary, his death may be caused by some means, as poison, which will give the opportunity of investigating another point. In the same manner, a great many of the facts for ascertaining which dogs are almost daily destroyed, may be observed as well, or better, by attending at slaughter-houses, at knackers' yards, &c.; and at the latter, leave may generally, for a slight ex-

pense, be obtained to employ the animals consigned to destruction for examinations, which will at the worst only a little prolong their sufferings. Such, we remember, was the plan pursued, among others, by the late Dr. Jones, in several of that admirable series of experiments by which he established the natural means employed in the arresting of hæmorrhages, and added so much to our knowledge of the uses and effects of ligatures.

It is sincerely to be hoped that the leading members of the scientific part of the profession will use every effort to discountenance the practice of popularly and unnecessarily performing vivisections. By thus preventing useless repetitions of cruelty, they will in some measure compensate for those they may themselves be obliged justifiably to commit, and will be able to make head against the growing odium which is being cast on the profession for its presumed participation in the proceedings of these mountebank butchers.

We are in some measure sorry to have been forced to rank our opinions with those usually grounded on mere popular prejudice; for certainly, on the whole, the declamations made against the practice by the public have been ill-judged, and exceedingly exaggerated. As far as cruelty is concerned, without reference to the subjects or end of it, there is not more in tormenting and destroying dogs, than is daily practised in those manly sports of fishing or shooting, or those punily philosophic occupations, entomology and its congeners.

The cruelties these persons practise are more generally overlooked, probably because so commonly committed; but in intensity of torture and complexity of plan, they are in nothing surpassed. That good pious old gentleman, Izaak Walton, inter-

sperses a glowing eulogium on the beauties of creation, and the beneficence of its great Author, with a still more warm description of how live frogs may be best impaled on hooks, and how you may best prolong their lives in this fixed state of happiness, by treating them "gently as though you loved them." The exercise of the same gentle feelings of love leads him and his worthy followers to play (as they call it) with trout, well hooked, holding them between life and death, and letting them imagine they are escaping, that they may again and again affectionately remind them of their imprisonment. The exquisitely ingenious modes of torture adopted in what is called *liggering* deserve mention. Here a wire is passed through every obstacle, from the mouth to the anus, of the most lively fish, and a hook drawn close to each side of his mouth, that he may swim all night at the end of a piece of string tied to a float, unless some merciful and credulous copatriot should eat him, and take upon himself the enjoyment of dragging the float about till morning,—when he is respited from this state of misery by being allowed to die on land, with the hook in his *primæ viæ*; for it is rare that sporting fishermen have the humanity to unhook fish thus caught. Yet fishing is esteemed a quiet, innocent, or even a philosophical amusement,—favouring meditation and thoughtfulness. But whatever be the sport thus pursued, the cause for which it is undertaken is certainly not so justifiable as the examination of living animals, with the precautions we have mentioned. These are undertaken purely for science,—they afford no pleasure to the operator, and are productive of no pecuniary profit; but the results to which such have already led have conferred some of the greatest blessings on mankind at large, and we daily feel the benefits we have

derived from them. Sports are followed, even according to the defence of their best supporters, only for the pleasure and excitement they produce to the individual: the public have no benefit from them, and many are attended with danger to human life. Yet the majority of these destroyers of life for their own pleasure, are loud declaimers against those who commit only similar cruelties for the profit of others. They are worthy colleagues of Magendie, and the genus of whom we have described him as the type; they may form a distinct species of it, with varieties according to their several pursuits.

RESIGNATION OF MESSRS. BACOT AND RIDOUT.

WE understand, upon authority which we cannot doubt, that the "Court of Assistants" never expressed any disapprobation of the conduct of Mr. Bacot and Mr. Ridout in accepting their appointments in the University of London, until the annual meeting, held the early part of this month. The Court then *re-elected* these gentlemen, but with a note or resolution declaratory of their opinion, that the situations accepted of by them in the new Institution were incompatible with those they held in the "Society." Upon this, of course, Mr. Bacot and Mr. Ridout immediately resigned. One of these gentlemen, if not both, had previously declared, and placed in writing, his intention to give up his seat in the Senatus of the University the moment the members of the body to which he originally belonged expressed the remotest wish that he should do so, or the slightest disapprobation of his having accepted the office alluded to.

GENERAL LYING-IN HOSPITAL.

MIDWIFERY REPORTS.

BY EDWARD RIGBY, M.D. F.L.S. &c.

[Continued from page 784.]

SEPT. 28, 1836.—Mrs. L——, æt. 24; first pregnancy; of middling stature; attended by Mr. R——, a gentleman in considerable practice. She had been in smart labour twelve hours. The pains had ceased once for nearly four hours, and then returned. Having effected little or no progress, and again gone off, he sent for me. The head was high in the pelvis, pressing tightly against the pubic bones. The os uteri fully dilated. There was not the unusual space in the cavity and outlet which is generally observed in a common deformed pelvis. The sharpness of the bones through the scalp, and absence of cranial tumor, showed distinctly that the child was dead. I passed the forceps. The blades went up easily enough in the left oblique diameter of the pelvis, but not in the right. After several efforts, finding that the head did not stir at all, I perforated without removing the forceps. By degrees the head collapsed, although very slowly, and was at length delivered with some difficulty. The child was full sized.

On examination after labour, I found that I could not reach the promontory of the sacrum with my finger; the hollow of it felt rather flat and straight. In a day or two afterwards she had an attack of uterine phlebitis, which was subdued by bleeding, calomel, poultices, and injections into the vagina. At the expiration of a fortnight, having had a foetid discharge for some days, bearing-down pains came on, and she expelled a large fibrous mass, apparently a complete cast of the uterus. It formed a large bag about a quarter of an inch in thickness, and with an opening corresponding to the os uteri. She recovered favourably.

The pelvis of this patient appeared to be one of those cases of peculiar deformity which has been lately noticed and described by Professor Naegelé, of whose paper on the subject I gave a brief abstract in the London Medical and Surgical Journal, published by Renshaw, for April 18, 1835, where the symphysis pubis is no longer opposite to the promontory, but the whole pelvis appears pushed over to one side, so that one side is considerably flattened, while the other bulges out, one oblique diameter being much lengthened at the expense of the other. I was led to this supposition from finding plenty of

space in the left oblique diameter, and not in the right, and also from not being able to reach the promontory of the sacrum with my finger. Under these circumstances, not finding the head advance with any justifiable degree of force applied by the forceps, and the difficulty with which it descended, even when diminished by the removal of the brain, prove that the obstruction must have been of an unusual nature.

The fibrinous cast of the uterus, which was discharged some time after, was by far the largest of the kind that I had ever seen, being as large as a uterus at the fourth month of pregnancy. In such a case an interesting question arises, although but with little chance of being solved, viz. are either or both Fallopian tubes pervious? The preparation is in the museum of St. Thomas's Hospital.

Nov. 13, 1835.—Elizabeth Bloore, æt. 35, mother of seven children. I was sent for by the midwife, on account of a presentation of the elbow. On examining, I found the elbow not very far advanced; os uteri well dilated; membranes ruptured; passages cool; scarcely any pains; rectum and bladder empty. I passed up my hand towards the shoulder, which was to the left side, and, feeling for the scapula, ascertained which was the posterior surface of the thorax. I passed my hand along its anterior surface, and soon reached a foot, which I brought down, and shortly after the other also. As the pains were very slow, I gave her a dose of ergot; they increased. The expulsion was carried on very slowly, and a movement of the limbs of the child evidently showed that it was alive. The arms came down with the breast, and I could soon reach the chin, which I gradually brought down to the perineum, pressing, with two fingers of my left hand, against the superior maxillary bone. It required some time and exertion before the head passed over the perineum. Having previously felt but little pulsation in the umbilical cord, I had pressed it towards the left sacro-iliac synchondrosis. On being born, the child (which was full-sized) gave a convulsive gasp; and having poured some spirit on the scrobiculus cordis, and excited two or three more grasps, I tied the cord, placed it in a warm bath, and inflated the lungs. In the course of twenty minutes the respiration gradually increased; at length it suddenly opened its eyes and cried, to the great delight of the bystanders. The placenta came away easily, and the mother did well.

Every thing had been done by the judicious midwife who attended her, to render turning as easy and favourable as possible. She had sent for me the instant the

nature of the presentation was evident. The rectum and bladder had been emptied, and the patient kept as still as possible. The elbow had advanced but little; I passed my hand along the anterior surface of the child, because in this direction there is not only more room, but also the best chance of coming quickly to the feet. I made a point of bringing down both feet, as by doing so the child enters the brim more readily, whereas when merely one foot is taken hold of, the pelvis descends unequally, and the other ischium is apt to lodge against the brim. This latter mode has been recommended by some, on the plea that by having one leg turned upon the abdomen, the presentation not only resembles more nearly that of the nates, which is well known to be more favourable for the child, but also the cord is thus defended from injurious pressure. I adopted this view myself for some time, but abandoned it from the degree of resistance which the pelvis of the child experienced in entering the brim, and I may state decidedly that I have turned with more ease and success since I have made a point of bringing down both feet wherever it was possible. This practice has also been confirmed by the highest continental authorities. In order to give the child the best chance of being born alive, I determined that the expulsion (now that the position was become a natural one) should be effected as much as possible by the natural powers: as the pains were very sluggish, the ergot was administered, and with the desired effect. As the child gradually descended with the contractions of the uterus, the head was by this means kept with the chin pressed upon the breast, and the arms thus prevented from slipping above it. The head, therefore, descended in the most favourable position into the pelvis, and experienced so little delay in its passage, that the cord was exposed to no serious degree of pressure. To the more experienced of my readers these minutiae will probably seem unnecessary, but to the junior members of our profession I trust they will not be altogether void of interest.

It has been observed by Professor Naegelé, of Heidelberg, that in many cases where the arm or shoulder has presented, the patient had frequently suffered from severe cramp-like pains in the abdomen during the last few weeks before labour, in which the uterus had sympathised, and had thus been affected with partial and spasmodic contractions; by this means the fundus had been pulled down unequally to one side, and the position of the child altered,—the long axis of its body no longer corresponding to the axis of the brim.

This is not the common obliquity of the uterus, once so much talked of as being a frequent cause of malposition of the child, and which has been long since proved to have no effect whatever in producing it. In the above case I therefore inquired into the state of the patient's health before labour, and found that "for the last two months she had been troubled with cramps all over her belly, particularly the sides and hips,—so much, that she had great difficulty in lying down." My excellent friend, to whom I am indebted for this curious fact, informed me that he was first induced to notice it in the case of a patient, who had been pregnant five times, and in each labour the child presented with the arm or shoulder. Being requested to attend her in her sixth confinement, and struck with the peculiarity of her former labours, he carefully investigated the history of each, and found that the only unusual symptom which he could detect was the severe attacks of spasmodic pain in the abdomen, which came on during the last weeks of pregnancy. Having endeavoured in vain to check them this time by opiate and antispasmodic remedies, he ordered a starch enema with a small quantity of tinct. opii every night: the attacks were effectually stopped; the child for the first time presented right, and was born alive. The fact is interesting, and deserves notice.

In almost every case to which I have been, summoned where turning has been necessary on account of malposition of the child, I have made a point of ascertaining whether the patient had suffered in this manner shortly before labour, and in many instances have found it to be the case.

April 9th, 1835. — Mrs. Fitzgerald, a short, stout Irish woman, æt. 32; fourth pregnancy.

Was called to her at midnight by one of the hospital midwives. The liquor amnii had come away an hour before, and this was followed by a coil of umbilical cord. She was straining violently with every pain, although the os uteri was not dilated; the pulsations of the cord were weak; the rectum was full of very hard scybala, the bowels not having been open for two or three days; the sacrum was very straight, and could be traced a long way up; the head was in the first position, high up, and resting on the brim. Her former labours had been very severe and difficult; nevertheless two children were born alive. As the rectum was so distended with fæces, I ordered some salt and warm water to be thrown up, and this brought away a considerable quantity. The os uteri now became thick and

dilatable, but I did not attempt to turn, as from the narrowness of the pelvis I had no chance of preserving the child's life. The pulsations in the cord soon ceased, but although the pains were very powerful, the head entered the cavity of the pelvis very slowly, the bones overlapping each other very slightly. I endeavoured to pass up the forceps, but the blades would not pass above the superior aperture, which the main bulk of the head had scarcely entered; I therefore perforated. The head was unusually thick and hard, more like the skull of a child two years old: it descended with great difficulty; the perforation was in the right parietal bone.

10th.—Has slept well; is quite comfortable.

A contracted pelvis and rigid os uteri, in cases of prolapsed funis, afford the child but a small chance of being born alive. It may perhaps be asserted by some that the deformed pelvis was the cause of the prolapsus, but (except very indirectly) I should much doubt its having any thing to do with the cord, because, in the majority of cases, we see it occur where the pelvis is perfectly well formed; and, on the other hand, we constantly meet with contracted pelvis, of every degree, without any prolapsus of the cord. It is the lower portion of the body of the uterus, which, by closely encircling the head, prevents the cord from descending: hence it is that we so frequently meet with prolapsus of it where the uterus has been distended with an unusual quantity of liquor amnii, and where it has been therefore prevented contracting upon the presenting part. This fact has recently been noticed by Dr. Michaelis, of Kiel, in the *Neue Zeitschrift für Geburtshülfe*. Her having already borne two living children, was no rule for not perforating in the present case. The unusual hardness of the head gave little or no chance of its elongating sufficiently to pass through the contracted brim, and sloughing of the soft parts must inevitably have ensued if delivery had been further delayed.

Mrs. H——, æt. 25; second pregnancy. Delicately formed. Her former labour was easy, but the placenta was removed with great difficulty.

October 22d, 1836.—Pains came on early in the morning; the os uteri dilated, and head advanced. I left her for an hour and a half; and on my return, found no advance in the labour whatever; the pains, which had been regular and effective, were now pinching, and over the bladder, having no effect on the os uteri, which remained quite loose. I now found that she had misled me, in the supposition that the bowels were open. An injection was

given, and as some time had elapsed without its acting, I gave a dose of ergot, in the hopes of rousing the sluggish uterus. The bowels were opened shortly after, and this was immediately followed by such active and vigorous pains, that she just reached her bed in time before the child was born. The placenta did not follow; and after waiting some time, as there was no hæmorrhage, I introduced my hand, but so firmly and closely was the whole mass united with the uterus, that I could not feel where the edge commenced, and was at length obliged to dig my fingers into the middle of it. The cord broke, and the placenta tore up in all directions, but still adhered so strongly, that after a long struggle I succeeded in removing but a small portion of it in shreds: I should think that barely a quarter came away. She passed a tolerable night. The next morning she had pain in the lower part of abdomen, which was relieved by a dose of calomel and Dover's powder, and a hot linseed-meal poultice; the bowels were well opened, and the vagina was frequently syringed with warm water. The child was applied to the breast early; the lochia were sparing, and began to change on the third day; and she recovered without any unfavourable symptom.

The spurious character of the pains would have led me to exhibit a laxative at a much earlier period, if I had not been induced to suppose that the bowels were already thoroughly evacuated. The parts being well dilated, and about two hours having elapsed since the enema was given without any effect, and moreover as she was becoming exhausted by these inefficient pains, I ventured upon giving her a dose of the ergot,—a medicine which I but rarely use before the expulsion of the child. Whether the sudden alteration of the pains was from the effects of this medicine, or from the bowels beginning to act, is perhaps difficult to say.

The chief point of interest is the retention of the placenta, which was produced by as firm and complete an adhesion as I ever met with. The portion which I succeeded in removing was very small, and I did not venture to attempt the separation of any more, from the unusual difficulty which I had experienced.

The disappearance of portions, and in some cases of the whole placenta, has been now so repeatedly observed, as to become a well-established fact; it would, however, be unnecessary to offer any observations on this subject, as I find that I have done so pretty fully in the case of Mrs. Neehan, published among my first set of Midwifery Hospital Reports, in the *MEDICAL GAZETTE* for May 31, 1834. I have there attributed it to the process of absorption;

and, truly, I know not how it otherwise can be explained, because in all the cases with which I am acquainted, the discharge has been sparing; and nothing solid whatever has come away. May not the disappearance of the adherent portions of the placenta, under these circumstances, and of the neck of a polypus above the ligature, be dependent on a similar process?

Mrs. Smith, æt. 27; August 20, 1836. Was called to her at midnight; found a stout short-necked primipara in severe epileptic puerperal convulsions, undelivered. She had gone nearly, if not quite, to her full time; the fits succeeded each other rapidly, with no consciousness between the attacks. Pulse small, hard, and quick; features much tumefied; bowels not open; os uteri fully dilated; foetal head small, and already in the vagina. She had been actively bled by a highly intelligent practitioner; the hair had been cut off short, cold lotions applied to the head, and ten grains of calomel given.

As she lay on her back I applied the forceps, and the head instantly followed. The child was alive, and she had no more fits whilst I remained.

I saw her again eleven hours afterwards; she had had four or five more fits, and lay moaning without consciousness; the pupils were much dilated, quite insensible to light, or to the hand when waved before her eyes. Pulse soft and small; bowels have not yet been moved; ten grains of calomel were again given, with $\mathcal{O}j.$ of jalap, and an enema of salts and senna, rendered stronger by some croton oil, was administered. Sinapisms had been applied at the moment of her delivery, and a blister to the nape of the neck.

Aug. 22d. — Bowels have been well opened; is partly conscious, but is in a half-maniacal idiotic state; will not believe that she has been delivered, and imagines that her attendants want to impose the child upon her: no milk.

23d. — Quite conscious and collected; still no appearance of milk; bowels open; tongue is very sore from having been bitten; manner quite natural.

Two causes of cerebral irritation were present in this case, viz. the presence of the child, and the loaded condition of the bowels. I need scarcely say that the indications were to remove them as speedily as could be done with safety. Active measures had been promptly and judiciously used to relieve the congestion of the head and unload the bowels, and I had only to follow them up by delivering the child.

In cases of severe puerperal convulsions, where the fits have returned very frequent-

ly, the patient does not recover her consciousness during the intervals, but lies moaning and tossing about in a half stupid state; and if attempted to be restrained in these irregular movements, will resist powerfully, and be sometimes very unruly: hence it is not always easy to keep her lying upon the left side, or to bring her sufficiently near to the edge of the bed for the purpose of applying the forceps. The supine posture, under such circumstances is the safest and best, as the patient will usually lie more quietly in this position than in any other. Two assistants will be required to hold her knees asunder, and the feet well drawn up to the nates; and kneeling between them upon the bed, we shall be able to pass the blades without much difficulty. In these cases the curved forceps are far better than the straight, as the handles are less in the way of the bed. The middle finger of the examining hand should be held a little in advance of the fore-finger, in order that the blade may glide upon it, and thus assist in giving it the proper direction. This is the common mode of applying the forceps in Germany, and has been described at length in the British and Foreign Medical Review, for April of the present year, page 49. I recollect being called some time ago to a case of convulsions, where the patient was so exceedingly unruly during the intervals between the fits, which came on every ten or fifteen minutes, that in order to prevent her turning round and injuring herself with the forceps, I was obliged to place her nearly upon her face, and pass the blades in this position. In the present case every thing was so favourable for the introduction of the instrument and the delivery of the head, that it was effected almost instantly.

It is of great importance to administer an active purgative as early as possible, for the bowels not only require an unusually powerful dose, but also more than the ordinary period before it acts. The unfavourable state in which I found her the next morning may be in great measure attributed to the unusual difficulty we experienced in getting the bowels open, and certainly for the time gave us but too much reason to fear a fatal result.

Mary Smith, æt. 38; fifth child; April 12, 1837. Was delivered of a healthy male child after an easy natural labour. Is a stout plethoric woman. Bowels much confined. Five hours after labour was seized with violent epileptic convulsions, during which she wounded her tongue severely. The fits recurred at short intervals, with continued coma or delirious muttering between. Face

flushed; pulse labouring, soft, and compressible. She was so unruly, that it was with the greatest difficulty she was bled to 3xx. Five grains of calomel and twelve of jalap were given, the head was shaved, cold was applied to it, and sinapisms to the legs. No evacuation being procured after some hours, and the convulsions having returned, the calomel and jalap were repeated, and a dose of salts and senna given an hour afterwards, to be repeated until the bowels were moved. An injection was also given: copious feculent and very fetid evacuations were at length passed, the fits ceased, and after lying insensible for some time she recovered her consciousness. One circumstance which seemed to contribute not a little to relieve her was my having ordered a sinapism to each breast to accelerate the secretion of milk, and which was followed by a smart discharge of lochia.

The circumstances of this case render it peculiarly interesting. Convulsions coming on after labour, and that her fifth labour, is by no means usual. Dr. Collins, in his valuable Practical Treatise on Midwifery, (p. 199) has rightly observed, "Puerperal convulsions occur almost invariably in *strong plethoric young women, with their first children;*" and I must confess that, with the exception of anæmic and apoplectic convulsions, I had never seen a case which was not in her first pregnancy. In the present instance, the convulsions, to all appearances, were induced by an unhealthy condition of the bowels of a patient, who from her form and habit was strongly predisposed to such attacks. In these cases, as Dr. Gooch has well observed, when speaking of puerperal mania from the same cause, this condition seems to be the link on which the disease hangs, for as soon as it is removed the patient is well.

The increased flow of the lochia on the application of a sinapism to the breast is interesting, and tends more than ever to confirm the existence of that close sympathetic connexion between this organ and the uterus, which I pointed out in the MEDICAL GAZETTE, Feb. 22, 1834.

[To be continued.]

EXISTENCE OF GERMS IN THE FŒTUS.

At a sitting of the Academy on the 7th of August, M. Carus communicated the results of his investigations made to determine the period at which ova may first be found in the ovaries of mammalia in general, and of the human species particularly.

He has especially examined the ovaries of newly-born calves; and he has advantageously employed with his microscope the *compressorium* of Valentin and Wagner.

In the calf, immediately after birth, he has succeeded not only in extracting completely the whole Graafian vesicle, but also, by tearing it cautiously asunder, the microscope has found the little ovum itself swimming in the discus proligerus, in the midst of the granular liquid which the vesicle contains. The little ovum thus demonstrated, shows very distinctly the chorion, the yolk, and the primary vesicle with its germinal spot, just like (except as regards size) the ovum removed from the vesicle of the cow.

Last spring the author extended his observations to the human species. He could not discover the Graafian vesicle with the liquid surrounding the ovum in the ovary of a female infant, which died four hours after birth; but by cutting thin slices of the ovary, and slightly pressing them beneath the microscope, ova were very distinctly seen, perfectly indicated by the vitellus and the primary vesicle, and still closely enveloped by the substance of the Graafian vesicle and the ovary.

It was quite different with the ovary of a female child, eighteen months old. Here several vesicles of a quarter or even half a line in diameter were seen; and though the child had suffered from rickets, and there was sanguineous infiltration of the uterus and the ovary, and even a little blood had penetrated into the liquid of some of the vesicles, and had dissolved the little ovum, yet in one of the largest it was found distinctly formed, while others presented only the whitish circle of albumen, with the vitelline membrane and the chorion, and the substance of the vitellus distinguished towards the discus proligerus by its fine globules, though the line of demarcation was not everywhere regularly traced.

In the ovaries of a child of $4\frac{1}{2}$ years old, the same objects had a greater development. Here each ovary contained a Graafian vesicle, completely developed, of a diameter of six-eighths of a line. After both had been removed and torn under the microscope, there issued from each an ovum of the diameter of one-twelfth of a line (Vienna measure), with the vitellus, the primitive vesicle, and its germinal spot, all perfectly marked, swimming in the liquid, which contained besides some globules. There was also, in the substance of the ovaries, a number of little ova of greater or less size, of diameters of one-sixtieth, one-twentieth, or even one-fourteenth, of a line, all still closely enveloped in their vesicles.

It results from these observations that, 1st, The ova, those germs of the future existence of men, are formed before the birth of the female individual, so that, towards the end of gestation with a female fœtus, three generations incontestably ex-

ist in a single individual. 2d, Early after the birth of the female, and at least from the first year of her life, there are developed round the ova the vesicles or follicles of the ovary, so that the coverings of such an ovule are already essentially the same as at the time of puberty. 3d, When, by the enlargement of the vesicle, and the effusion of the liquid, the mature ovum is more isolated from the substance of the maternal organs, it remains in a state of latent life for a greater or less number of years, till, by the act of fecundation, it is drawn from this dependent state to a further development.

It results further, adds M. Carus, that when we wish to enumerate all the periods of human life, we must proceed nearly as for the vital periods of the insect, in which we distinguish the ovular life, that of the larva and chrysalis, and that of the perfect insect.—*Gazette Médicale*, Août 12, 1837.

ADMINISTRATION OF ASAFŒTIDA IN ENEMATA OR DRAUGHTS.

DUCLOU recommends the following as a formula:—Take of asafœtida, in perfectly dry pieces, eight ounces; powdered gum Arabic and white sugar, of each a pound; oil of almonds $1\frac{1}{2}$ pint; boiling water two pints; rub the asafœtida with the gum and sugar to a very fine powder, in an iron mortar; shake them, when mixed, through a fine sieve, then mix them intricately with the oil; add the boiling water by degrees, and having strained the whole through linen, keep it for use in well-stoppered bottles. It is miscible, in all proportions, with water, forming a white emulsion with it. An ounce of it contains a drachm of asafœtida.—*Bull. de Therap.* t. xi. liv. 2.

PROFESSIONAL QUARRELS.

To the Editor of the Medical Gazette.

SIR,

IT often happens that men, when seeking redress for either real or imaginary injuries, not only defeat their object, but, in fact, do away with every claim even to explanation. I am led into these observations by the perusal of a correspondence referred to in your last Number, as published in the "Lancet," between a Mr. Bush and Sir H. Halford. It appears that Mr. Bush was informed that Sir Henry had spoken of his treatment of a case in rather offensive and injurious terms. Mr. B. wrote to Sir H. for an explanation, when the latter most unequivocally denied the charge. There is no qualification—no evasion—no subterfuge; but a plain positive absolute denial. Mr. Bush is not satis-

fied; but having become the champion of his own reputation and character in the first instance, he must needs, in the second place, become the champion of the veracity of his *informants*, and call upon Sir H. to enter into lengthy and uninteresting explanations and discussions, upon subjects regarding which (without the slightest imputation upon their character or veracity), Mr. Bush's informants may easily have misunderstood any observations addressed to them. But, sir, does not Sir H.'s disavowal of the expressions attributed to him take away from Mr. Bush not only every ground of complaint, but, still farther, even take the question entirely out of his hands? He had no farther right to interrogate Sir H. upon the subject, because Sir H.'s disavowal of the conversation made the question one between Sir H. and Mr. Bush's informants, and in which Mr. Bush had no farther concern. Mr. Bush, therefore, should have merely shown Sir H.'s disavowal to his informants, intimating that to them and Sir H. he left it to settle the question and reconcile the differences. So far I proceed merely with the view of pointing out what should be the conduct of medical men under similar circumstances; but now, sir, a word to Mr. Bush himself. Upon the representation of a patient in ill health, and for whom, under such circumstances, every allowance should be made, Mr. B. attacks Sir H. as if he had actually avowed the expressions imputed to him,—not as if asking merely whether they had been used by him or not. Mr. Bush, upon reflection, must feel satisfied that the style of his letter was both rude and offensive, and such as would have justified Sir Henry in refusing any explanation; notwithstanding which, he declares, for the satisfaction of the individual who had so offensively and uncereemoniously addressed him, that the charges were wholly groundless, and absolutely unfounded. I presume I need scarcely remind Mr. Bush that he could have felt neither surprised nor incensed, had his demand for an explanation been refused or neglected, when, in seeking redress for his own wounded feelings, he paid so little regard to the feelings of others.

In these observations I am actuated entirely by public motives. With Sir Henry I am but slightly acquainted, and therefore cannot be influenced by motives of prejudice; but my opinion is that the profession, both collectively and individually, should stand up against any, even the slightest, breach of decorum.

I am, sir,

Yours obediently,

CENSOR.

London, Aug. 8, 1837.

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns up to Tuesday, August 22, 1837.)

	PRICE.						DUTY.	DUTY PAID	
	£	s.	d.	£	s.	d.		In 1837 to last week.	Same time last year.
Aloes, Barbadoes, D.P. c	12	0	0	to 30	0	0	} B P. lb 0 2 } F. lb 0 8 }	55,224	68,650
Hepatic (dry) BD. c	5	0	0	14	0	0			
Cape, BD. c	1	10	0	1	16	0	F. lb 1 4	251	1,015
Aniseed, Oil of, German, D.P. lb	0	9	6	0	9	6	E. I. 1 4	1,104	743
E. I. lb	0	7	0	0	7	6	c 6 0	22	76
Assafoetida, B.D. c	0	2	10	0	5	0	lb 0 1	1,350	1,312
Balsam, Canada, D.P. lb	0	1	3	0	1	4	c 4 0	144	179
Copaiba, BD. lb	0	2	7				lb 1 0	507	1,433
Peru, BD. lb	0	5	0				c 4 0	94	37
Benzoin (best) BD. c	25	0	0	50	0	0	c 1 0	292	253
Camphor, unrefined, BD. c	9	0	0				lb 1 0	17,302	12,334
Cantharides, D.P. lb	0	4	9	0	5	0	lb 4 0	1,370	1,266
Carraway, Oil of, D.P. lb	0	9	0				lb 0 1	2,058	3,499
Cascarilla or Eleutheria Bark, D.P.C. lb	1	15	0				lb 1 4	2,283	3,544
Cassia, Oil of, BD. lb	0	9	0				c 1 3	} 4,783	3,875
Castor Oil, East India, BD. lb	0	0	6	0	0	10			
West I. (bottle) D.P. 1½ lb	0	2	3				} lb 0 6	203	751
Castoreum, American lb	1	15	0						
D.P. Hudson's Bay lb	1	0	0	1	4	0	c 1 0	22,664	6,104
Russian lb				none			} lb 0 1	100,309	75,895
Catechu, BD. c	1	0	0						
Cinchona Bark, Pale (Crown) lb	0	2	0	0	3	6	} lb 0 2	6,213	10,401
BD. Red lb	0	3	0	0	6	0			
Yellow lb	0	1	2	0	1	3	lb 0 2	8,812	9,725
Colocynth, Turkey lb	0	2	6	0	4	0	lb 0 6	22,356	17,583
D.P. Mogadore lb	0	3	0				c 4 0	62	68
Calumba Root, BD. c	1	4	0	2	5	0	c 4 0	368	190
Cubebs, BD. c	3	0	0				c 6 0	52	8
Gamboge, BD. c	5	0	0	15	0	0	} c 6 0	2,532	7,409
Gentian, D.P. c	1	4	0						
Guaiacum, D.P. lb	0	1	0	0	1	8	} c 6 0	1,585	2,307
Gum Arabic, Turkey, fine, D.P. c	8	0	0	9	0	0			
Do. seconds, D.P. c	5	0	0	7	0	0	c 6 0	1,300	2,766
Barbary, brown, BD. c	4	5	0	4	10	0	lb 0 1	285	203
Do. white, D.P. c	4	15	0				lb 0 1	6,690	20,599
E. I. fine yellow, BD. c	3	0	0	3	10	0	lb 1 0	7,747	7,313
Do. dark brown, B.D. c	1	15	0	2	5	0	lb 0 6	39,391	35,901
Senegal garblings, D.P. c	4	15	0	5	0	0	} lb 0 3	14,947	7,568
Tragacanth, D.P. c	13	0	0	20	0	0			
Iceland Moss (Lichen), D.P. lb	0	0	2½	0	0	3	oz 6 0	1,352	973
Ipecacuanha Root, B.D. lb	0	2	6	0	2	9	} c 6 0	92	143
Jalap, BD. lb	0	1	6	0	1	7			
Manna, flaky, BD. lb	0	5	0				lb 2 6	1,120	859
Sicilian, BD. lb	0	1	7				lb 1 0	24,226	22,858
Musk, China, BD. oz	1	0	0	1	8	0	lb 4 0	809	341
Myrrh, East India, BD. c	5	0	0	14	0	0	lb 0 1	155,022	184,616
Turkey, BD. c	2	0	0	11	10	0	lb 1 0	29,025	27,512
Nux Vomica, BD. lb	0	8	0	0	9	0	} F. lb 1 0	4,319	4,205
Opium, Turkey, BD. lb	0	10	9	0	11	6			
Peppermint, Oil of, F. BD. lb	1	0	0				lb 1 0	3,450	3,155
Quicksilver, BD. lb	0	3	7				lb 0 6	75,213	81,754
Rhubarb, East India, BD. lb	0	2	0	0	2	6	} lb 2 6	5,676	4,725
Dutch, trimmed, D.P. lb	0	3	6	0	4	0			
Russian, BD. lb	0	8	3				E. I. lb 0 6	63,019	58,706
Saffron, French, BD. lb	0	17	0	0	18	0	} Other sorts 0 6	40,063	46,107
Spanish lb	1	1	0						
Sarsaparilla, Honduras, BD. lb	0	1	0	0	1	9			
Lisbon, BD. lb	0	2	0						
Scammony, Smyrna, D.P. lb									
Aleppo lb	0	12	0	0	15	0			
Senna, East India, BD. lb	0	0	3	0	0	4			
Alexandria, D.P. lb	0	1	6						
Smyrna, D.P. lb	0	1	0	0	1	3			
Tripoli, D.P. lb	0	1	0	0	1	3			

‡§‡ BD. In Bond. — c. Cwt. — B. P. British Possessions. — F. Foreign. — D. P. Duty paid.

LONDON HOSPITAL.

Wound of the Carotid Artery with a Tobacco-pipe.

JAMES LANGHORN, æt. 30, was admitted into the London Hospital on Thursday, August 17th, under the care of Mr. Hamilton, in a state of apparent suffocation. Five days previously he broke a piece of tobacco-pipe in his mouth,—how, it was not known. On examining a wound in the *right* side of the tongue with a probe, some hard substance was felt, and in consequence a pair of forceps was introduced, and with some difficulty a piece of tobacco-pipe, four inches long, was extracted. Instantly a torrent of blood gushed from the nose and mouth, and the man fell backwards dead. On a post-mortem examination, it appeared that the pipe had entered the *right* side of the tongue, passed obliquely, and perforated the *left* carotid artery and jugular vein. The pipe acting as a plug, had prevented hæmorrhage from these vessels, but by causing great swelling in the surrounding parts, had nearly occasioned suffocation.

M. BLANDIN.

THE concours for the office of Chef des Travaux Anatomiques, vacant by the resignation of M. Breschet, has terminated, as was expected, in the election of M. Blandin. The appointment is said to have given general satisfaction, for he is perhaps the most rising of the young Parisian surgeons. His principal competitors were MM. Broc and Chassaignac.

ANIMAL FLOWER.

THE inhabitants of St. Lucia have discovered a most singular plant. In a cavern of that isle, near the sea, is a large basin of water, which is brackish, and its bottom composed of rocks; from these proceed beautiful flowers of a bright shining colour, and nearly resembling our marigolds. These seeming flowers, on the approach of a hand, retire, like the sudil, out of sight. On examining their substance closely, there appears in the middle of the disk four brown filaments resembling spiders' legs. These legs have pincers to seize their prey, and upon seizing it, the yellow petals immediately close. The body of the animal is about the size of a raven's bill.—*Lit. Chron.*

BOOKS RECEIVED FOR REVIEW.

Inaugural Dissertation on the Physiology and Pathology on the Brain. By John Hughes Bennett.

Eloge upon Baron G. Dupuytren. By E. Pariset, Perp. Sec. at the Royal Aca-

demy of Medicine. Translated, with Notes, by J. I. Ikin.

Notice of Patents granted to Joseph Amesbury, Surgeon, for certain Apparatuses used in the treatment of Stiffness, Weakness, or Deformity of the Spine, Chest, or Limbs: with Remarks and Illustrations.

Surgical Observations on Tumors, with cases and operations. By J. C. Warren, M.D., Professor of Anatomy and Surgery in Harvard University, and Surgeon of the Massachusetts General Hospital.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 24, 1837.

Edwin Bryant. — George Nelson, Moor Row, Wigton, Cumberland. — Henry George Garland Harrison, Devonport. — Joseph Taylor Johnson, Birmingham. — Philip Reilly, Hertford. — Frederick Steele Verity, Bridgend, Glamorganshire. — Wm. Selwyn Morris. — William White Williams, High Wycombe, Bucks.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Aug. 22, 1837.

Abscess 2	Hooping Cough 6
Age and Debility 34	Inflammation 27
Apoplexy 5	Bowels & Stomach 6
Asthma 4	Brain 2
Childbirth 2	Lungs and Pleura 6
Consumption 51	Insanity 9
Convulsions 42	Liver, diseased 3
Croup 2	Measles 25
Dentition or Teething 4	Mortification 1
Diarrhœa 2	Paralysis 1
Dropsy 11	Small-pox 5
Dropsy in the Brain 5	Spasms 1
Dropsy in the Chest 2	Stricture 1
Erysipelas 1	Thrush 1
Fever 19	Tumor 1
Fever, Scarlet 2	Unknown Causes 12
Fever, Typhus 1	
Gout 1	Casualties 5

Decrease of Burials, as compared with }
the preceding week } 43

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

Aug.	THERMOMETER.	BAROMETER.
Thursday . 17	from 47 to 79	29·97 to 29·98
Friday . . 18	46 77	30·06 Stat.
Saturday . 19	48 77	30 04 29·92
Sunday . . 20	54 75	29·82 29·90
Monday . . 21	48 74	29·98 29·99
Tuesday . . 22	46 71	30·05 30·04
Wednesday 23	45 71	29 98 Stat.

Prevailing wind, S.W.

Except the 18th and two following days, generally cloudy, with frequent rain; thunder at times during the afternoon of the 17th.

Rain fallen, '25 of an inch.

CHARLES HENRY ADAMS.

NOTICE.

The letter of JUNIUS has been received.

WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 2, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMA-
COLOGY, AND GENERAL
THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXXI.

Euphorbium—continued.

I MENTIONED in my last lecture that, according to Mr. Jackson, *Euphorbium* is procured from a succulent plant, called by the Shelluhs and Arabs *Dergmuse*, and which, from Mr. Jackson's description, appears to be nearly related to, though not identical with, the *Euphorbia officinarum*.

I have found mixed with the *euphorbium* of commerce pieces of the stem of a species of *Euphorbia*, from which I presume this waxy resin is obtained. All these pieces are, with one exception, four-angled, the exception having five angles; the prickles are in pairs, spreading, straight, and equal. Now it will be perceived that these characters apply to *E. officinarum*, with the exception of the angles of the stem, which in the latter are many.

Linneus considered the flowers of this genus to be hermaphrodite, and to consist of a monosepalous calyx, a polypetalous corolla, twelve or more stamina, and one ovary surmounted by three bifid styles; and he therefore placed it in his class *Dodecandria*, order *Trigynia*. Botanists of the present day, however, for the most part, take a different view of the structure of the flowers, the calyx and corolla of Linneus being regarded as an involucre,

each stamen being considered as a distinct flower, and in the centre of these male flowers is the female. On this view *Euphorbia* belongs to class *Monœcia*, order *Monandria*, and this is the position assigned to it by the late Sir J. E. Smith, in the "*English Flora*." Sprengel, however, places it in class *Monœcia*, section *Androgynia*; the section including all those monœcious plants having flowers of distinct sexes contained in the same receptacle.

Production.—The mode of obtaining *euphorbium* is this:—The inhabitants of the lower regions of the Atlas range make incisions in the branches of the plant, and from these a milky juice exudes, which is so acrid that it excoriates the fingers when applied to them. This exuded juice hardens by the heat of the sun, and forms a whitish yellow solid, which drops off in the month of September, and forms the *Euphorbium* of commerce. "The plants," says Mr. Jackson, "produce abundantly once only in four years; but this fourth year's produce is more than all Europe can consume." The people who collect it, he adds, are obliged "to tie a cloth over their mouth and nostrils, to prevent the small dusty particles from annoying them, as they produce incessant sneezing."

The branches of the plant are employed in tanning, and to it, says Mr. Jackson, probably the Morocco leather owes its reputed pre-eminence. The ladies use it as a depilatory.

Physical properties.—*Euphorbium* consists of irregular, yellowish, slightly friable tears, usually pierced with one or two holes, united at the base, and in which we find the remains of a double aculeus. These tears are almost odourless, but their dust, applied to the olfactory membrane, acts as a powerful sternutatory. Their taste is at first slight, afterwards acrid and burning.

When heated, *Euphorbium* melts, swells up imperfectly, evolves an odour somewhat like that of benzoic acid vapour,

takes fire, and burns with a pale flame. Alcohol, æther, and oil of turpentine, are its best solvents; water dissolves only a small portion of it.

Composition.—Several analyses of it have been made; namely, by Laudet (in 1800), by Braconnot (in 1809), by Pelletier, by

John, by Muhlmann (in 1818), by Brandes (in 1819), and by Drs. Buchner and Herberger. From these we learn that the principal constituents are *resin, wax, and saline matter* (principally malates): hence its proper name is not gum, gum-resin, nor resin; but *saline waxy-resin*.

	Laudet.	Braconnot.	Pelletier.	Mühlmann.	Brandes.
Resin	64·0	37·0	60·8	54·0	43·77
Wax	—	19·0	14·4	14·0	14·93
Caoutchouc ..	—	—	—	3·2	4·84
Gum	23·3	—	—	—	—
Malate of } potash .. }	—	2·0	1·8	2·0	4·9
Malate of lime	—	20·5	12·2	19·6	18·82
Bassorine	—	—	2·0	—	—
Wood fibre, } and other } insoluble } matters .. }	9·3	13·5	—	6·0	5·60
Sulphate of } potash .. }	—	—	—	—	0·45
Sulphate of } lime	—	—	—	—	0·10
Phosphate of } lime	—	—	—	—	0·15
Water and loss	3·4	8·0	8·8	1·2	6·44
	100·0	100·0	100·0	100·0	100·0

Euphorbium resin is the active ingredient of *Euphorbium*. It coincides in many of its properties with the ordinary resins: thus it is reddish brown, hard, brittle, fusible, soluble in alcohol, æther, and oil of turpentine, and somewhat less so in oil of almonds. Its leading and characteristic property is intense acidity. It differs from some resins in being slightly soluble only in alkalies.

Drs. Buchner and Herberger consider it to be a compound of two resinous substances—one possessing the properties of an acid, the other those of a base. The basic resin, which they term *Euphorbiin*, is the active principle,—the other, I suppose, might be termed *Euphorbic acid*; and if this be admitted, we may term the resin of *Euphorbium* the *Euphorbate* of *Euphorbiin*.

The *wax* found in *Euphorbium* seems to be analogous to ordinary or bees' wax. The 14·93 parts mentioned in Brandes' analysis consists of 13·70 cerin, and 1·23 of myricine.

The *malates* of *potash* and *lime* form, ac-

cording to Braconnot, Muhlmann, and Brandes, more than $\frac{1}{2}$ of *Euphorbium*. Laudet, I suppose, mistook them for gum.

Traces of *volatile oil* were found by Pelletier.

Physiological effects.—(a.) *On animals generally.* *Euphorbium* acts on horses and dogs as a powerful acrid substance, irritating and inflaming parts with which it is placed in contact, and by sympathy affecting the nervous system. When swallowed in large quantities, it causes gastro-enteritis (two ounces are sufficient to kill a horse); when applied to the skin, it acts as a rubefacient and epipastic. Farriers sometimes employ it as a substitute for cantharides, for blistering horses, but cautious and well-informed veterinarians are opposed to its use.

(b.) *On man.* The leading effect of *Euphorbium* on man is that of a most violent acrid; but under certain circumstances a narcotic operation has been observed. When *Euphorbium dust* is inhaled, and also applied to the face, as is done by the

workmen employed in grinding this drug, it causes sneezing, redness and swelling of the face, and great irritation about the eyes and nose. To prevent as much as possible these effects, various contrivances are adopted by different drug-grinders: some employ masks with glass eyes; others apply wet sponge to the nose and face; while some cover the face with crape. The pain and irritation, I am informed, are sometimes very great. Individuals who have been exposed for some time to the influence of this dust suffer with headache, giddiness, and ultimately become delirious. All the workmen of whom I have inquired (and they comprise those of three large firms, including the one alluded to by Dr. Christison) agree that these are the effects of euphorbium. An old labourer assured me that this substance produced in him a feeling of intoxication; and I was informed at one drug-mill of an Irish labourer who was made temporarily insane by it, and who, during the fit, insisted on saying his prayers at the tail of the mill-horse!

Insensibility and convulsions have been produced by euphorbium. The only instance I am acquainted with is the following:—A man was engaged at a mill in which euphorbium was being ground, and remained in the room longer than was considered prudent. Suddenly he darted from the mill-room, and ran with such velocity down two pairs of stairs, that some of his fellow-labourers fancied he must have jumped through the window, so quickly did he reach the ground-floor or yard. On arriving at the latter he became insensible, and fell. Within five minutes I saw him; he was lying on his back, insensible, and convulsed; his face was red and swollen; his pulse frequent and full, and his skin very hot. I bled him, and within half an hour he became quite sensible, but complained of great headache. He had no recollection of his flight down stairs, which seems to have been performed in a fit of delirium.

When powdered euphorbium is applied to the skin, it causes itching, pain, and inflammation, succeeded by vesication.

When swallowed, it causes vomiting and purging, and, in large doses, gastro-enteritis, with irregular hurried pulse, and cold perspirations.

Uses.—Notwithstanding that it is still retained in the Pharmacopœia, it is rarely employed in medicine. It was formerly used as an emetic and drastic purgative in dropsies; but the violence and danger of its operation have led to its disuse as such. Sometimes it is employed as an *errhine* in chronic affections of the eyes, ears, or brain; but its local action is so violent, that we can only apply it when largely

diluted with some mild powder, as starch or flour.

Mixed with turpentine and Burgundy pitch (or rosin), it is employed in the form of plaster, as a *rubefacient*, in chronic affections of the joints. As a *vesicant*, it is rarely employed. As a *caustic*, either the powder or alcoholic tincture is sometimes employed in carious ulcers.

Antidote.—In a case of poisoning by euphorbium, the treatment will consist in the exhibition of emollient and demulcent drinks and clysters (of mucilaginous, amy-laceous, or oleaginous liquids), the exhibition of opium, and the employment of blood-letting and warm baths. In fact, as we have no chemical antidote, our object is to involve the poison in demulcents, to diminish the sensibility of the living part by opium, and to obviate the inflammation by blood-letting and the warm bath.

Euphorbia Lathyris.

This is an indigenous biennial, commonly termed the *Caper Spurge*, on account of the resemblance of its seed-vessels to caper buds.

Though not contained in the British or United States Pharmacopœias, it has been introduced into that of Paris. The whole plant is pervaded by a milky juice, which gives it energetic acrid properties; and thus, when swallowed, it irritates the alimentary canal, causes vomiting and purging, and in large doses induces fatal gastro-enteritis. In a case of poisoning by the seeds, mentioned by Dr. Christison, narcotic symptoms were also present.

The seeds, formerly termed the *grana regia minora*, yield, by pressure or by the agency of alcohol or æther, a fixed oil (*oleum euphorbiæ*), which has been used as a substitute for croton oil. It may be given in doses of from five to ten drops, either in the form of pill or of emulsion.

Jatropha Manihot.

This shrub is a native of South America.



FIG. 201.—*Jatropha Manihot.*

Its height is about six or eight feet. The root is very large, thick, tuberous, fleshy, and white, often weighing thirty pounds; it contains an acrid, milky, highly-poisonous juice. The leaves are palmate, five or seven-lobed, the lobes being oval-lanceolate and entire. The flowers are in axillary racemes.

According to the Linnean classification it belongs to class *Monæcia*, order *Monadelphæa*.

The root of this plant consists principally of starch and a white milky juice, possessing powerful, acro-narcotic properties. When taken internally this juice causes convulsions, swelling of the abdomen, rapid diminution of the vital powers, vomiting, purging, giddiness, syncope, and death sometimes in a few minutes. The scrapings of the fresh root are applied to ill-disposed ulcers.

The poisonous principle of the root is, however, easily destroyed or dissipated, as by heat, fermentation, &c.: hence it is either very volatile, or readily decomposed. Guibourt says "it appears to be of the nature of hydrocyanic acid." When the root has been deprived of this poisonous principle, it is found to possess highly nutritious qualities; and the substances termed *Farine de Manioc* or *Cassava powder*, *Couaque* or *Couac*, *Cassava bread*, *Moussache* or *Cipipa*, and *Tapioca*, are preparations of it. They are thus obtained: the Manihot root is rasped and pressed, so as to separate the juice. When the compressed pulp is dried in chimneys, and exposed to the smoke, and afterwards powdered, it constitutes the *Farine de Manioc*, or *Cassava powder*. When granulated, by agitating it in a heated iron pan until incipient torrefaction, it is called *Couaque*, or *Couac*. Lastly, when dried or baked into cakes, on plates of iron or clay, it constitutes *Cassava* or *Cassada bread*.

The expressed poisonous juice deposits a fecula, which, when washed and dried in the air without heat, is termed *Moussache* (from *Mouchacho*, a Spanish word signifying *boy* or *lad*), or *Cipipa*, and which for some years has been imported into France from Martinique, and sold as Arrow root. But when this fecula is dried on hot plates, and it merely acquires a granular character, it is called *Tapioca*.

Of all the above preparations, the only one used to any extent in this country is *Tapioca*, which is imported from Bahia and Rio Janeiro. It occurs in irregular white grains, which are partially soluble in water, the filtered solution yielding a blue colour with iodine. When these grains are mixed with water, and examined by the microscope, they present numerous spherical granules, of nearly equal volume, and which appear to have a black spot in their centres. These granules are

much smaller than those of arrow-root or ordinary starch.

Tapioca is used for making puddings. As it is agreeable to the taste, nutritious, easily digestible, non-irritating, and non-stimulating, it is frequently recommended by medical men as an article of food for sick and convalescent persons. It is taken when boiled in either water or milk, and sweetened with sugar.

Jatropha Curcas.

This is a native of South America and of Asia. It is a small tree or shrub, frequently cultivated for fences. Its leaves are petiolate, broad cordate, five-lobed, smooth, the lobes being entire. The inflorescence is a many-flowered corymbus. The flowers are monœcious, with five yellow petals. The fruit is the regma of Mirbel. (Fig. 202.)

Some interesting observations on this plant will be found in Mr. Bennett's paper, in the 9th vol. of the *MEDICAL GAZETTE*.

The fruit is described in some pharmacological works as the *nux cathartica americana*, or *nux barbadensis*. The seeds, which are sometimes met with in the shops, are usually called *physic nuts*; they are the *semina ricini majoris* of some authors, the *gros Pignon d'Inde* of the French pharmacologists; their shape is like that of castor seeds, but their size is larger; externally they are black. Between the external seed coat (the testa) and the internal one (endopleura), Guibourt has sometimes noticed very brilliant crystalline plates. These seeds are powerful acrids: Mr. Bennett swallowed four of them, and "experienced a very unpleasant burning sensation in the stomach and bowels, with nausea, which, after an interval of nearly two hours, terminated in vomiting: their purgative effects followed soon afterwards, and operated mildly; the sickness had then nearly passed away, but the burning sensation continued for some time longer." In large doses they are energetic poisons.

From these seeds is obtained the *oleum Jatrophæ Curcadis*, occasionally termed the *oleum infernale*. It is a fixed oil, possessing acrid properties somewhat analogous to those of the oil of croton, for which, indeed, it is said to be sometimes substituted. It is occasionally used as a drastic purgative, and in India is employed by the poorer class of natives to burn in lamps.

Ricinus communis.

History. — The castor-oil plant was known in the most ancient times. Cailaud found the seeds of it in some Egyptian sarcophagi, supposed to have been at least 4000 years old. Whether this

FIG. 202.—*Jatropha Curcas*. (a.) A seed.

is, as some persons imagine, the plant alluded to in the Bible (Jonah, ch. iv. 6), and which in our translation is called the gourd, I cannot pretend to decide. The pious fathers, Jerome and Augustine, differed so much in their opinions as to what was the particular plant meant in the passage just referred to, that from words we are told they proceeded to blows!

The ancient Greeks were acquainted with the *Ricinus*, for both Herodotus and Hippocrates mention it; and the latter employed the root in medicine. Dioscorides calls it the *Κλκκ* or *Κρότων*. It was termed *Κρότων* by the Greeks, and *Ricinus* by the Romans, on account of the resemblance of its seeds to a little insect bearing these names, which infests dogs and other animals, and whose common name in English is the tick.

Botany.—Under the name of *Ricinus*

communis some botanists include several forms of this genus, which by others are regarded as distinct species. Moreover, it appears that the castor seeds and the oil of commerce are obtained from more than one of these forms.

The *Ricinus communis* of Linneus is found in the East and West Indies, and also in Africa. Its native country, however, is imperfectly determined. It is with us an annual herbaceous plant, attaining a height of about six feet. In Africa, however, it is said to become a perennial tree. In Candia, says Loudon, it continues many years, and, according to Belon, requires a ladder to come at the seeds. These statements, I presume, apply to *R. africanus* and *lividus*, and not to *communis*. The stems of plants growing in this country are round, greenish or red brown and blue pruinose, and branched. The leaves, which stand on long round petioles, are

very large, palmate (hence the term *Palma Christi* applied to the plant), peltate, eight to ten lobed; the lobes being oblong, acuminate, plane, irregularly toothed, quite smooth. On the petiole, near its junction with the lamina, is a large scutelliform gland. The inflorescence is usually regarded as a compound raceme, the upper part of which is formed by the almost sessile female flowers, the lower part by the male flowers, which are placed on short pedicles. In the "*Genera Plantarum Floræ Germanicæ*," however, the male flowers are described as being racemose-fascicled—the females terminal and spiked.



FIG. 203.—*Ricinus communis*.

It has been stated that in monœcious plants the male flowers are usually placed above the females, apparently that the pollen may fall on the stigma: in this plant, however, the reverse is observed. The perianth is three or five-parted. The stamina of *Ricinus* are numerous, and inserted into the receptacle; the filaments being capillary, branched, and united at their base. The ovarium is roundish and tri-locular: the stigmata, which are three in number, are long, flocculent, reddish, and bipartite. The fruit consists of roundish, three-sided, tri-locular, pruinose, prickly capsules, each cell of which contains one pendulous seed. They are supported by stalks which are a little longer than the capsules themselves, and are arranged so as to form a loose raceme.

The other forms of *Ricinus*, which, from being closely allied to *R. communis*, have been sometimes regarded as mere varieties only, are, according to Drs. T. F. L. Nees v. Esenbeck and C. H. Ebermaier, in their "*Handbuch der Medicinisch Pharmaceutischen Botanik*," distinguished principally by the colour and pruinose condition of the stem; characters which, however uncertain in

other cases, here appear to be constant. The following are the forms referred to:—

Ricinus africanus (Willd.) Stem not pruinose, green, or on one side reddish. The fruit-racemes abbreviated, the fruit-stalk longer than the capsule. Seeds attenuated on one side, marbled grey and yellowish brown.

Ricinus macrophyllus (H. Berol.) Nearly allied to the foregoing: stem quite green, not pruinose. Fruit racemes elongated, fruit-stalk shorter than the fruit.

Ricinus leucocarpus (H. Berol.) Stem pale green, white pruinose. Fruit-stalk as long as the fruit. The unripe fruit and prickles almost quite white.

Ricinus lividus (Willd.) Stem, petiole, and midrib, purple red, not pruinose. Nearly allied to *R. africanus*, and like this more woody and perennial.

Ricinus viridis (Willd.) Stem pale green, blue pruinose, by which it is distinguished from *R. macrophyllus*. Seeds somewhat smaller, more oval, marked with white and fine brown.

Dr. Hamilton (*Linn. Trans.* vol xiv.) tells us that four different kinds of *Ricinus* are cultivated in Bengal,—namely,

- R. communis*.
- R. lividus*.
- R. viridis*.
- R. africanus*.

The two first of these are principally cultivated for the seed: the two latter for the leaves, on which a large kind of silk-worm is reared.

In the Linnean arrangement the genus *Ricinus* belongs to class *Monœcia*, order *Monadelphæa*.

I. CASTOR SEEDS. *Semina Ricini* (sen *Catuputiæ majoris*).—The seeds are oval, somewhat compressed, about four lines three lines broad, and a line and a half long, thick: externally, they are pale grey, but marbled with yellowish brown spots and stripes. The seed-coats consist, according to Bischoff, of a smooth external coat (*Epidermis seminalis*). 2dly, a difform,

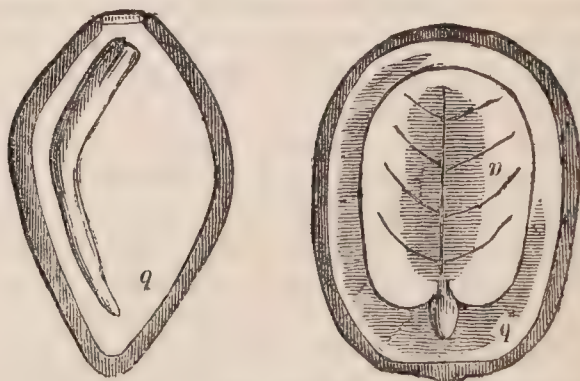


FIG. 204.—Seed shewing the membranous or foliaceous cotyledons.

- a. A foliaceous cotyledon.
- b. Albumen.

hard *testa*, consisting of two layers, an external, thick, and dark-brown one, and an internal one, thinner and paler. 3rdly, a *cuticula nuclei* or *membrana interna*. The fleshy tumid *cicatricula stomatis* (also termed *strophiola*) is very evident at the upper end of the seed; beneath it is the small *hilum*, from which passes downwards the

longitudinal *raphe*. The *nucleus* of the seed consists of oily *albumen*, and an embryo whose cotyledons are membranous or foliaceous.

Composition of Castor seeds.—The only analysis of these seeds, as yet published, is that of Geiger. The following are his results:—

a. Seed coats	{	Tasteless resin and extractive	1.91	} 23.82
		Brown gum	1.91	
		Ligneous fibre	20.00	
b. Nucleus of the seeds..	{	Fatty oil	46.19	} 69.09
		Gum	2.40	
		Caseum (albumen)	0.50	
		Ligneous fibre with starch? (hard- ened albumen?)	20.00	
Loss (moisture).....				7.09
				<hr/> 100.00

In this analysis, however, no allusion is made to any *acid principle*, the existence of which the effects of the seeds clearly prove. This principle is of a volatile nature, for the expressed oil may be deprived of it by ebullition with water; and Guibourt states he experienced a peculiar feeling of dryness of the eyes and throat, in consequence of having been exposed to the vapour arising from a vessel in which bruised castor seeds and water were boiling. Moreover, Planche obtained a permanent odorous principle by distilling a mixture of water and castor oil. Bussy and Lecanu explain the occasional acidity of the oil, by supposing that it depends on the production of some elaiodic and ricinic acids; and I presume they would apply the same explanation to the seeds; but I think it unsatisfactory.

Not only have the *nature* and *existence* of this acid matter been called in question, but those who agree as to its presence disagree as to its *seat*. For a long period it was supposed to reside exclusively in the embryo,—and among the celebrated men who have adopted this opinion I may refer to Serapion, Simon Pauli, J. Bauhin, Hermann, Geoffroy, Jussieu, Deyeaux, and Decandolle. But the correctness of this opinion was first called in question by Merat, and has subsequently been disproved by Boutron and Henry, junior. It is astonishing, indeed, how it could have so long been entertained; for any one who will take the trouble of tasting the seed may soon satisfy himself that the albumen also possesses acidity, though, perhaps, not quite to the same extent as the embryo. Boutron, and Henry, junior, indeed, go so far as to assert that the acidity resides exclusively in the albumen; but here, I think, they are as much in error as those who contend for the embryo being the sole

depository of the acid principle. Some, indeed, think that this acidity exists in the seed-coats; and Dierbach asserts it to reside in the innermost coat, at least in fresh seeds: but this is certainly not the case in the seeds as met with in commerce. For some further observations on this subject I must refer to an excellent paper by Professor Guibourt, in the first volume of the *Journal de Chimie Médicale*.

Physiological effects of Castor seeds.—These seeds possess considerable acidity. Bergius states that a man masticated a single seed at bed-time: the following morning he was attacked with violent vomiting and purging, which continued the whole day. Lanzoni also states that the life of a woman was endangered by eating three grains of the seeds. More recently, a girl, 18 years of age, was killed by eating “about twenty” seeds: the cause of death was gastro-enteritis*.

2. CASTOR OIL: *Oleum Ricini*. *Preparation of Castor oil*—(a.) *In the Southern provinces of India.*—The seeds are soaked in cold water and afterwards boiled in water, then dried in the sun: they are then bruised in a mortar, and boiled in water a second time: the contents of the pot being continually stirred until the oil appears at the top, when it is carefully strained off, and bottled for use.—(Ainslie.)

(b.) *In the United States.*—The cleansed seeds are gently heated in a shallow iron reservoir to render the oil liquid for easy expression, and then compressed in a powerful screw press, by which a whitish oily liquid is obtained, which is boiled with water in clean iron boilers, and the impurities skimmed off as they rise to the surface. The water dissolves the mucilage and starch, and the heat coagulates

* See MEDICAL GAZETTE, vol. xix. p. 944.

the albumen, which forms a whitish layer between the oil and water. The clear oil is now removed and boiled with a minute portion of water until aqueous vapours cease to arise: by this process an acrid volatile matter is got rid of. This oil is put into barrels, and in this way is sent into the market. Good seeds yield about 25 per cent. of oil.—(*Wood and Bache.*)

(c.) *In Jamaica.*—The bruised seeds are boiled with water in an iron pot, and the liquid kept constantly stirred. The oil which separates swims on the top, mixed with a white froth, and is skimmed off. The skimmings are heated in a small iron pot and strained through a cloth. When cold, it is put up in jars or bottles for use.—(*Wright.*)

(d.) *In France.*—Dry, sound, castor seeds, of the same year's growth (the produce of the south of France) are to be deprived of their seed-coats by passing them between two fluted cylinders, and afterwards winnowing them or picking them with the hand. The kernels are made into a paste, either by a mill or in a mortar: the paste is inclosed in square cloths, and the oil strongly expressed in a place whose temperature is between 60° F. and 70° F. It is then to be filtered.—(*Guibourt.*)

Physical properties and varieties.—Castor oil is a thickish fluid oil, usually of a pale yellow colour, with a slightly nauseous odour and a mild taste. It is lighter than water, its sp. gr. being, according to Saussure, 0.969 at 55° F. When cooled down to about 0°, it congeals into a transparent yellow mass. By exposure to the air it becomes rancid, thick, and ultimately congeals, without becoming opaque, and hence it is called a *drying oil*. When heated to a little more than 500° F. it begins to decompose.

East Indian Castor oil is the principal kind employed in this country. It is imported from Bombay and Calcutta. It is an oil of exceedingly good quality (both with respect to colour and taste) and is obtained at a very low price. It is obtained from *Ricinus communis* and *R. lividus*.

West India Castor oil I am not well acquainted with, not having been able to procure authentic samples of it.

United States Castor oil is, for the most part, imported from New York. All the samples which I have examined have been of very fine quality, and, in my opinion, had a less unpleasant flavour than the East Indian variety. Our druggists object to it, on the ground of its depositing a white substance (stearin?) in cold weather, a circumstance which has led some persons to imagine it had been mixed with olive oil.

I have seen one sample of *Castor oil* from *New South Wales*. It was of a very dark colour.

Solubility.—In absolute alcohol, and in pure sulphuric æther, castor oil is completely soluble. In this respect it agrees with palm oil, but disagrees with all the ordinary fixed oils. Hence alcohol has been proposed as a means of detecting adulteration of castor oil, the adulterating oil not being soluble in alcohol. Stoltze says benzoic acid promotes the solution of castor oil in rectified spirit.

Composition.—The ultimate analysis of castor oil has been made by two chemists, Saussure and Ure. Their results are as follows:—

	Saussure.	Ure.
Carbon	74.178	74.00
Hydrogen	11.034	10.29
Oxygen	14.788	15.71
	<hr/> 100.000	<hr/> 100.000

The *proximate* analysis of the oil is yet a desideratum, notwithstanding the important labours of several distinguished chemists, more especially of Bussy and Lecanu. This oil is distinguished from other fixed oils by three circumstances: 1st, the peculiar products of its saponification; 2dly, the peculiar products of its distillation; 3dly, its solubility in alcohol.

From the experiments of Bussy and Lecanu, it appears castor oil contains neither oleine nor stearine, but is to be regarded as a compound organic substance, consisting of at least two different hitherto undescribed bodies.

The products of its *distillation* were, besides some gas—

1. Volatile oil.
2. Solid fatty acid (*ricinic acid*.)
3. Liquid fatty acid (*elaiodic acid*.)
4. Water.
5. Acetic acid.
6. Solid matter.

Of these results those which are peculiar to castor oil are the *volatile oil*, the *fatty acids*, and the *solid matter*. These, therefore, require separate consideration.

1. *Volatile oil.*—This, according to Bussy and Lecanu, is colourless, very homogeneous, and by cooling, crystallizable.

2. *Volatile fatty acids.*—These are exceedingly acrid substances, which combine with bases to form salts. They are soluble in alcohol and æther, but are insoluble in water. The saline compounds formed by the union of these acids with potash, soda, magnesia, and lead, are soluble in alcohol; those with potash and soda are also soluble in water, but the others are insoluble in this liquid. The principal distinctions between these two acids are the following:—

(a.) *Ricinic acid* is crystalline, solid at ordinary temperatures: but fuses at 72° F.

The hydrate, or crystallized acid, consists of—

Carbon	73·56
Hydrogen	9·86
Oxygen	13·58

Crystallized ricinic acid 100·00

(b) *Oleo-ricinic*, or *Elaiodic acid*, is a yellow-coloured liquid, at 32°; many degrees below this, however, it becomes solid. It has not been analyzed.

3. *Solid matter*.—This constitutes about 2-3ds of the castor oil employed. It has a pale yellow colour, is elastic, odourless, tasteless, and combustible. It is insoluble in alcohol, æther, and the oils both fixed and volatile.

The products of the *saponification* of castor oil by potash or soda are, for every 100 parts of castor oil employed—

Fatty acids (<i>ricinic</i> , <i>elaiodic</i> , and <i>margaritic acids</i>).....	94
Glycerin	8

102

The *margaritic acid* constitutes only 0·002 of these products; it might, therefore, have been present in the products of distillation, but have escaped examination. *Margaritic acid* crystallizes in pearly scales; it is distinguished from the *ricinic* and *elaiodic acids* by its high fusing point (266° F.), by its partial decomposition when distilled, and by the insolubility of the *margaritate* of magnesia in alcohol. The hydrated or crystallized acid consists of—

Carbon.....	70·5
Hydrogen	10·91
Oxygen	18·59
	100·00

Physiological effects of castor oil.—(a.) *On animals generally*, castor oil acts as a laxative, or mild purgative. Large animals, as the horse, require a pint or more for a dose; smaller ones need only a few ounces. Such are the statements of Moiroud in his "*Pharmacologie-Vétérinaire*;" but Professor Youatt declares this oil to be both uncertain and dangerous in the horse. (See "*The Horse*," p. 212 and 387.)

(b.) *On man*.—*Injected into the veins*, castor oil gripes and purges, and causes a nauseous oily taste in the mouth [Dr. E. Hale, quoted by Begin, in his *Traité de Thérapeutique*, p. 114]: hence it would appear to have a specific influence over the mucous lining of the alimentary canal. Swallowed to the extent of one or two ounces, it usually acts as a mild, but tolerably certain purgative or laxative, without producing any uneasiness in the bowels. "It has this particular advantage," says Dr. Culen, "that it operates sooner after its exhibition than any other purgative I know

of, as it commonly operates in two or three hours. It seldom gives any griping, and its operation is generally moderate—to one, two, or three stools only." It not unfrequently occasions nausea, or even vomiting, especially if somewhat rancid; in many cases, I believe, rather from its disgusting flavour than from any positively emetic qualities.

It has been stated by continental writers that castor oil is most unequal in its action, at one time operating with considerable violence, at another with great mildness; but I have never found it so, nor is it usually considered to be so in this country. I can, however, readily believe that a difference in the mode of its preparation, especially with reference to the heat employed, may materially affect its purgative property, since its active principle is of a volatile nature. Moreover, rancid oil would be a powerful irritant.

When castor oil has been taken by the mouth, it may be frequently recognized in the alvine evacuations; but it presents itself under various forms: "sometimes resembling caseous flakes, or a soap-like scum, floating on the more fluid part of the dejection; occasionally it has been arranged in a form not unlike branches of grapes, or more nearly of hydatids of a white colour: more generally, however, it is found mixed up with the fæces as a kind of emulsion, and in some few instances it has been discharged under the form of solid tallow-like masses*."

Uses.—Castor oil is used to evacuate the contents of the bowels in all cases where we are particularly desirous of avoiding the production of abdominal irritation. The principal, or I might say, the only objection to its use in these cases, is its nauseous taste. The following are the leading cases in which we employ it:—

1. *In inflammatory affections of the alimentary canal*, as enteritis, peritonitis, and dysentery, a mild but certain purgative is oftentimes indicated. No substance, I believe, answers the indication better, and few so well, as castor oil.

2. *In obstructions and spasmodic affections of the bowels*, as intus-susception, ileus, and colic, especially lead colic, this oil is the most effectual evacuant we can employ.

3. *After surgical operations about the pelvis or abdomen* (for example, lithotomy, and the operation for strangulated hernia,) as well as after *parturition*, it is the best and safest purgative.

4. *In inflammatory or spasmodic diseases of the urino-genital organs*, inflammation of the kidneys or bladder, calculous affections,

* See a paper, by Mr. Golding Bird, in the GAZETTE, vol. xv. p. 225.

gonorrhœa, stricture, &c., castor oil is a most valuable purgative.

5. *In affections of the rectum*, especially piles, prolapsus, and stricture, no better evacuant can be employed.

6. *As an anthelmintic* for tape worms, castor oil was first employed by Odier. Arnemann, however, has shown that it possesses no peculiar or specific vermifuge properties.

7. *As a purgative for children* it has been used on account of its mildness, but its unpleasant taste is a strong objection to its use.

8. *In habitual costiveness*, also, it has been recommended. Dr. Cullen observed that if castor oil be frequently repeated, the dose might be gradually diminished; so that persons who in the first instance required half an ounce or more, afterwards needed only two drachms.

Administration.—The dose of castor oil for children is one or two tea-spoonfuls; for adults, from one to two or three table-spoonfuls. To cover its unpleasant flavour some take it floating on spirits (especially gin), others on coffee or peppermint, or some other aromatic water. Or it may be made into an emulsion by the aid of the yolk of egg or mucilage.

ON THE DIVISION OF THE TENDO ACHILLIS

IN CASES OF CLUB-FOOT.

BY JOHN WHIPPLE, SURGEON,
Plymouth.

A PAPER which I had some time since the honour of laying before the Medico-Chirurgical Society, stating the result of an operation for the division of the tendo Achillis, in two cases of what is familiarly termed *club-foot*, having been honoured with some attention, I am induced to give the result of my experience on the advantages of this operation for the removal of the deformity in question; of which, however, I would first point out the different species. Of these there are four.

The first and most common is *talipes verus*, where the heel is drawn up, the foot resting on the cuboid bone, the sole turned backwards, and the great toe opposite the inner malleolus of the other leg; the second, *talipes equinus*, where the sufferer stands on the points of his toes; the third, *talipes*

dorsalis, where the foot is so drawn back, that the dorsum is in contact with the ground; and the fourth, *talipes* —, where, owing to extreme flexion, the point of the heel only touches the ground.

The appearances of the first I have had some opportunities of tracing by dissection in still-born children; but as I do not conceive the information so acquired to be of any practical value, further than as shewing the cause of the deformity not to be dependent on malformation of the tarsal bones, I shall leave the subject to those who are more fond of speculation than myself, and proceed at once to describe the mode I have adopted for the performance of the operation, and the treatment which is subsequently necessary.

The foot being extended as much as possible, the integument posterior to the tendon is pinched up about two inches above the os calcis, in order to separate it from the latter, when a narrow-bladed knife, with a rounded cutting extremity, is passed from within obliquely downwards and outwards, *between* the integument and tendon; and as soon as the point of the knife is felt under the integument, and on the outer side of it, considerable flexion of the foot is made by an assistant, the point of the knife being at the same time depressed, so as to bring it in contact with the tense tendon, when, by firmly depressing and withdrawing the instrument, the object is instantly effected. This is made evident by the sudden jerk with which the heel is brought down, in some instances two or three inches, as in cases of *talipes equinus*. The knife should be passed from the inside outwards, for this reason: should you depress the point more than is necessary to divide the tendon, there would be no risk of wounding the posterior tibial artery, which would be the case were you to introduce your knife from without inwards; and it is essential to depress with some force, or you leave undivided some fibres of the tendon most remote from your puncture, and have to introduce your knife again (not a little embarrassed at your own bungling) for the purpose of dividing them. However, although the point of your knife be dipped some distance anterior to the edge of the tendon externally, in order to secure its division, this will not be necessary in-

ternally, as, the moment you feel your object effected, you discontinue the pressure on the knife, and withdraw it carefully, so as not to enlarge the integumental opening.

This, I think, is by far the best mode of operating, as by this means you pass your knife across a relaxed tendon, which, when rendered tense, is brought up to meet the edge of the instrument, and therefore more readily divided than when you pass your knife between it and the deeply-seated muscles. Another objection to the latter plan with me is, that the tendon is in such close contact with the integument, that you run a great risk of dividing, or partially dividing, the latter, which, from the years of contraction to which it has been subjected, is rendered exceedingly tense when the foot is flexed. In upwards of thirty cases which I have examined, I have found no exception to this. Again, where the toes are the points of support, the tendon will be found nearly embraced by the integument, as in the corresponding tendon in the horse, though certainly not to such an extent. I must not leave this part of the subject without a remark relative to the division of other tendons apparently implicated, without the division of which it might be imagined that little would be gained; and, indeed, such was my own impression after the operation in the second case I have recorded. I had promised that one tendon only should be divided, but I confess that I left my patient with regret at having so given my word, and determined to gain the consent of the parents to the division of the others, if the muscles did not elongate by steady and constant extension, as I at first conceived they would, looking upon them as secondarily affected, their contractility being favoured by the rolling inwards of the foot. A few days, however, served to remove all doubt from my mind, as they were evidently relaxing. I abandoned then the idea of their division being necessary, and as yet I have had no occasion to regret it. I am free, however, to acknowledge, that it might be the means of a more speedy alteration of the shape of the foot; yet the chances of inflammation, together with the weakness which a want of union would necessarily induce, are sufficient reasons for its division not being attempted. No doubt can exist

of its impropriety in cases of talipes verus, as will be illustrated hereafter.

My reasons for dividing the tendon obliquely are as follows:—First, by so doing you have a larger surface for nature to carry on her operations on; secondly, you have the obliquely divided tendon in nearer approximation, and thereby secure a firmer ligamentous band than in the transverse division; and thirdly, the application of the instrument does not separate the lips of the wound—a desirable point, as the sooner it heals, so as to prevent the escape of lymph, the better. The puncture is dressed with adhesive plaster, and the instruments applied at once, as, where this has been deferred, the act of stretching the inflamed part has caused considerably more pain than the operation and early application combined. Much care and attention are required for the first three weeks or month, in order to keep the heel well down. Every thing depends on the heel and instep straps, and neither the fears and doubts of the surgeon, nor the ill-timed meddling of the parents, must interfere with the application of these straps; for, however aggravated the case may be, the removal of the deformity by proper treatment is certain. I know of no instance where patience is more necessary to the surgeon than in treating these cases; every thing is to be gained by it; for, by strapping too tightly, and screwing too firmly, vesications are produced, which compel you to remove every thing for their cure, and you lose more in twenty-four hours than you have gained in a week. Therefore, all you can do is to secure the heel firmly to the iron-sole, and to screw the plate so that it may merely *rest* on the cuboid and tarsal bones; then, from day to day, to draw in the strap a little tighter, so as to bring the end of the splint to the knee: a little pain and inconvenience are of course attendant upon this proceeding, but provided it does not produce vesication, this cannot be of any consideration when put in competition with the importance of the result.

CASE I.—William Northmore, aged nine years, a remarkably fine boy, soon after his birth was observed to point his toes in an unusual degree, which, however, could be altered by forcibly flexing the feet. The opinion first given was,

that when he began to walk this appearance would cease; the contrary, however, was the case; for as he advanced in age the deformity increased. Various medical men were consulted for him, and recourse was had to sea-bathing, embrocations to the spine, and the usual means of removing spinal irritation. This treatment was persisted in for four years, but proving utterly useless, all further attention to the case was suspended for some time. He was afterwards taken to London, where the old treatment was again resorted to, in conjunction with rigid confinement to the inclined plane. This was pursued for twelve months, and the little fellow's health was much impaired, without any alleviation of the deformity. This treatment was therefore discontinued, and when he had in some measure regained his strength, he returned to the country, and was allowed to resume his crutches, and to exercise himself by their support.

It was two years after this that I was desired to see him, and, on examination, conceived that the disease was not dependant on the spine, but solely confined to a shortened condition of the gastrocnemic muscles. Having ascertained that the action of the ankle-joint was perfect (which was done by flexing the leg on the thigh, when the foot could be brought at right angles with the leg), I advised a division of the tendo Achillis, and the application of an apparatus for sustaining the foot in its natural position, and trusted to nature for a sufficient supply of ligament to fill up the space between the divided ends, which would be drawn asunder at least two inches. Twelve months, however, elapsed after this advice, when the parents again desired me to do what I could, so that I would promise not to render the boy worse than he was. This being impossible, as he could not stand for an instant alone on his widely-extended toes, and had no mode of progression but by a simultaneous advancement of both legs, when he was supported by his crutches, I designed an apparatus for the legs, and operated in the mode described:—The feet were immediately restored to their natural position, and there retained, and gradually flexed from day to day by one or two turns of the screw, in proportion as the long flexors of the toes, &c., relaxed. At the end of three weeks he

stood alone perfectly steady without any support, not having, however, the slightest idea how walking was to be effected; and five weeks after the operation, when supported in order to assist his locomotion, he invariably lifted the legs as before. Much trouble was required to prevent this, by holding one foot firmly to the ground, and then lifting the other from it; in fact, instinct seemed never to have led him to the lifting of one foot at a time. He was therefore placed under a sergeant of the Marine corps, thanks to whose assiduity he is now (thirteen months from the operation) able to walk some miles without assistance or support.

CASE II.—M. Gennis, aged eight years, a delicate child, walked well until two years and a half old; she then had an attack of fever, and when she recovered, was found, while standing, to have one heel drawn up about an inch from the ground, so that she walked as a person suffering from disease of the hip-joint in its shortened stage. After some time, from this contraction increasing, the foot gradually fell over on its side. Instruments were applied to support her ankle, which, failing of success, and causing suffering from their weight and pressure, a boot was substituted, which did not prevent her from ultimately walking on the cuboid and metatarsal bone of the little toe. On examination, I found the heel one inch and a half from the ground, with extreme tension of the tendo Achillis and of the tibialis anticus (as referred to previously.) In this case the tendon was divided as in the preceding, and the apparatus (No. 2) immediately applied. At the expiration of ten days, the inflammation having totally disappeared, she was given a crutch, and allowed to move from room to room. At the present time the difference in the shape of the feet is very trifling, and, were it not that the affected foot is rather shorter than the other, a casual observer would not perceive a difference in their form.

CASE III.— — Mortimer, aged 28 years, was observed to have talipes equinus, though in a trifling degree, from birth, the heel, when I first saw her, being more than two inches from the ground: the pain in walking even a

short distance caused such distress in the whole limb (the muscles of which were exceedingly attenuated, particularly in the leg) that she seldom took exercise, and readily assented to any operation that would alleviate her condition. In her the tendo Achillis was unusually large, out of all proportion to the muscle, and there was considerable thickening of the cellular tissue in its neighbourhood.

I operated by the oblique incision, and I particularize this to show that the subsequent inflammation has nothing to do with the size of the tendon to be divided, as, at the end of four days, there being no effusion, nor inflammation enough to produce ligamentous deposit, I extended and flexed the foot briskly, in order to excite some action in the part,—a proceeding which had the desired effect, as it was followed by slight tumefaction and pain. She was kept in bed three weeks (as the limb felt heavy and weak), when she was permitted to move about with the apparatus still applied, which was continued for five weeks only, in consequence of union having taken place. She now walks well, and without pain.

CASE IV.—William Greeny, an intelligent boy, aged eight years, was born with talipes verus of both feet. Adhesive plaister, cardboard splints, &c. were resorted to without benefit, and therefore abandoned. When fifteen months old he walked alone, completely resting on the cuboid bones. The usual club-footed boots were worn from that time, and when I was consulted nothing of this species could exceed the deformity. The great toe pointed to the opposite ankle; the sole of the foot backwards. Two large bursæ over the cuboid bone formed the cushion of support and defence from pressure, and in walking the toes of the one foot were lifted completely over the other. The extensors and flexors of the thigh were immensely developed; in short, it was an extreme case of the sort. Here the only tendon which appeared implicated was the tendo Achillis, which was divided, and in this instance (from being disappointed by the maker) the apparatus was not applied for three days: the pain they caused, however, was severe, from stretching the integument covering the tendon, to which latter it was firmly

adherent. The integument between the inner ankle and great toe produced much uneasiness from the same cause. Frictions, with oleaginous embrocations, were productive of much comfort and ease. The improvement in the shape was imperceptible, as all my attention was directed to the main point—that of bringing down the heel before firm union had taken place between the ends of the divided tendon. At the present time, seven weeks from the operation, the soles of the feet are on the ground, and the improvement is very gratifying to all who have an interest in this case. This little fellow was confined on the sofa seventeen days, in order to afford every advantage in drawing down the heel.

This case has fully borne out my conviction, that every case of talipes verus, if not arising from cerebral or spinal irritation, can be cured by steady attention and perseverance on the part of the surgeon; and that to him alone, and not to the operation itself, is all blame due if he fails of success.

CASE V.— — Brady, between 2 and 3 years old, the child of a private of the 43d regiment, was afflicted with congenital club-foot, talipes verus, and had worn instruments from birth. Here, the leg, as usual, was much wasted, and presented the ordinary appearances, though not in an extreme degree, from having always been carefully attended to by a fond mother, under the inspection of military surgeons. The sole cause was the same as the preceding, which, when removed, allowed the foot to be immediately restored to its natural position. The usual instrument was then applied, and at the expiration of ten days firm connexion had taken place; at the end of three weeks not the smallest deformity was discoverable.

From this result the deduction is, that infancy is the time most favourable for the operation; nor did she, although so young, suffer in the slightest degree from the apparatus.

CASE VI.—William Stephens, a delicate-looking boy, aged $7\frac{1}{2}$ years, born of healthy parents, was observed at his birth to point his left foot, which so increased, that when old enough to walk, all attempts to make him bring his heel to the ground were unavailing; therefore he, like many others, was allowed

to go about as he best could. And at the time I saw him, his foot, while standing, exhibited one of the worst forms of talipes equinus, the dorsum of the foot being in a right line with the leg, with considerable wasting of the latter. On the division of the tendo Achillis, the foot was instantly brought into its natural position, and there retained by the apparatus: he was confined to his bed five days, and then allowed to get up and move about his chamber with the assistance of a stick. At the expiration of three weeks all support was taken from him; and at the end of five he walked tolerably well, unassisted in any way. I would remark, that the ligamentous connexion, in this case, is not above one half the size of the tendon, which I conceive to arise from the division being made transversely, and therefore allowing only one half the surface, which would have been formed by an oblique division, for the pouring out of the animal glue.

CASE VII.—George Truscott, 14 years old, son of an artificer in the Royal Naval Yard, Devonport, had congenital club-feet. For some time he wore irons, but as he grew up they became a source of pain and annoyance by their pressure, and were in consequence left off. For years he walked with the large flat-heeled boot generally adopted on these occasions; and when he was presented to me I found that he had talipes verus in its most aggravated form. In few words, it was a case similar to that of Greeny, so that nothing had been gained by the use of instruments in the early period of his life. Here, as in Greeny, no other tendon was materially contracted, but the integument considerably so. The operation was performed as before, and he was confined to his bed a fortnight, in order to allow the irons to be firmly applied, with the view of keeping the heel well down: this it completely effected. Some weeks have now elapsed; the soles of his feet are facing the ground, and there is considerable improvement in every way. He walks about with the apparatus well, and, as in all the cases of this kind, rapid absorption of the bursæ is taking place.

CASE VIII.—The result of early operation is strongly exemplified in the

following case:—The patient, Charlotte —, of Newton Ferris, being 14 months old, with congenital club-feet, so that even at that age, while attempting to sustain the body, the side only of the foot rested on the ground, the sole facing backwards, &c. At the time of my being consulted, nothing had been done to remedy the deformity. The child being in vigorous health, I did not hesitate to operate: the experience of my previous operations, none of which were followed by the slightest disturbance (notwithstanding the irritable temperament, and violent temper of some of my patients,) I considered as justifying my proceeding without delay. The foot, in one week, had gained its natural position, and at this period, the 20th of July, seventeen days from the operation, there is scarcely a perceptible difference between this and the originally sound foot. Indeed; so convinced am I of the little risk attendant on the use of the knife in these cases, that, were the two first teeth cut without convulsions, I should never hesitate in recommending the operation; yet I am of opinion that if it be done just before the child first attempts to stand, every desirable end will be gained.

It will be remembered that, in stating the mode of proceeding in the application of the apparatus, particular attention has been drawn to the extreme caution requisite in order to avoid undue pressure causing vesication and gangrene, the miserable effects of which have been exemplified but too strongly in the following, my last case; and although caused by the tacit occurrence of the parents with the boy's wishes, have occasioned me much trouble, anxiety, and disappointment. I shall relate the case in full, in order to guard others on this most important point.

CASE IX.—William —, aged 7, was operated on the 4th of July: the instruments were not applied until the following day, as they could not be got ready, and the father wishing to be with the child during the operation, and having business to call him home I acceded to his wishes. The apparatus was adjusted in the usual manner, though with much pain in the divided tendon, which, however, ceased in two or three hours. Directions were left that the knee-strap should be tightened by *one hole* early in the evening, and,

to my surprise, on seeing him the same night, I found that, in his anxiety for a speedy cure, he had drawn the side-iron of one leg close to the knee, yet perfectly uncomplaining of pain under the pad. I determined on removing it in order to see the degree of pressure on the cuboid bone, which I found so considerable as to produce a purple hue of the integument. The apparatus was discontinued, and a spirit wash applied for a short time, when the surrounding parts becoming inflamed, antiphlogistic measures were had recourse to; but, in spite of all our exertions, considerable sloughing came on over the tarsus, so that all attempts at removing the deformity were of necessity abandoned for the present. There was not, however, very much constitutional irritation; the part has now separated, granulations are springing up, and no doubt remains of the wound kindly healing. Thus, then, will be seen the vigilance and caution which such cases require; on them, and on them alone, depends the credit of this important and happy operation.

14, Devonshire Place,
Plymouth.

EDUCATION OF APOTHECARIES.

REPLY TO A LETTER BY DR. KERRISON.

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To the Editor of the Medical Gazette.

SIR,

ALLOW me to make a few remarks on a letter by Dr. Kerrison, inserted in your journal of the 19th ult. respecting the education of apothecaries, where he refers to the leading article in a former number of the GAZETTE, in which some very just observations were made on the same subject.

It is there very truly said, that too much is already crowded into too short a space of time, and Dr. Kerrison's plan of exacting a more regular attendance upon lectures, seems only likely to aggravate rather than relieve that evil.

In fact it is impossible for the Society of Apothecaries, or any collegiate body conferring degrees or licenses for proficiency in any branch of knowledge, to make rules which can *oblige* men to acquire information on any subject; all that they can do, is to see that proper facilities are afforded for the acquisition

of learning, preparatory to the student coming before them for examination; and then by a sufficiently strict examination itself, to prove whether those opportunities have been profited by. The pupil must find the information for himself. Let the examinations be more severe, but less attention paid to how the knowledge is obtained. If the importance of what he has to do be sufficiently impressed on his mind, the student will easily find means to accomplish it. I do not by this mean to infer that the plan of requiring certificates of attendance on certain courses of lectures should be altered, or that any body merely possessing sufficient knowledge should be admitted to examination without such testimonials of previous education,—this being a very requisite step for providing for the respectability of the candidates; but whether the pupil regularly attends on those lectures, and profits by them, must depend on himself. There is no doubt that lectures, when good, and well delivered, are exceedingly useful; but all that they can do is to point out to the student what he has to learn, and shew him the readiest way of acquiring that information. To suppose that a man can become either an anatomist, a chemist, or a botanist, by sitting so many hours in a lecture-room, is absurd, even if he was always attentive, (and I do not know whether Dr. Kerrison could devise a plan, by which it might be known whether men listened to, as well as were present at, the lectures.)

If, then, the knowledge to be thus obtained is not sufficient, where is the student to get it? From books and other sources. But he may ask,—If I attend all the lectures every day to which I have entered, which generally occupy six or seven hours, and wish to see the practice of a hospital as well, what time have I for reading? Two or three hours is not sufficient to read on all the subjects he has been attending during the day, (few young men will be found who can study regularly more than eight or nine hours) and very little that he has heard will be recollected if he does not look over the subject the same evening, or take notes, and copy them out more fully while the lecture is fresh in his memory.

A very common practice is that of being *ground*, as it is called, which means being prepared for examination by reading with a private tutor, for a

few months before going up to the Hall or College. The principal object in this proceeding is to find out with *how little* knowledge it will be possible to get through; many of the pupils who resort to this plan having wasted the time which should have been properly applied to the acquisition of learning in idleness and dissipation. It is the fault of the examiners if the superficial knowledge thus obtained is allowed to deceive them, and pass undetected: and who has the student to blame but himself, if he should be rejected, after attempting to learn in a few months that which has very properly been said to have been too much crowded into as many years? It is not meant by these observations to reprobate the system of private tuition, when conducted on a different system, and undertaken by persons properly qualified: it will in fact be often found of the greatest assistance to the student of slow abilities or diffident manners; and it cannot be expected that the public lecturer (especially if he have a large class,) can give that individual attention required under such circumstances, even if the pupil had the confidence to ask him after lecture to explain every thing that he did not clearly understand. The best mode of preparation would be that conducted on the same principle as private tuition at the universities of Oxford and Cambridge. The pupil should commence it at the same time that he begins his other studies. He may then ask his tutor's advice as to the proper method of directing his studies to the best advantage, and get him to give him a private examination once or twice a week to mark what progress he is making. It may be asked, who are to be considered as competent persons to fulfil this office? I may ask who are the private tutors at Cambridge or Oxford? some of the first men in the universities, who have taken the highest honors, at the same time young men. It cannot be expected that any of the senior officers at the medical schools, who are most of them physicians and surgeons in large practice, will undertake the trouble, or that the sum which the pupils will pay for it would adequately remunerate them; but many of the junior lecturers will be found very glad to devote a few hours a week to such an occupation, and as their own information is fresh, and they are generally men of good talents and acquirements, they are well fitted to

give the student that advice and assistance which he stands in need of. The subject in which medical students are more often deficient than any other, it is lamentable to observe, is a competent knowledge of the Latin language. All that the examiners at the Apothecaries' Hall require is so little, that a boy of 12 years old, at a good grammar school, would be ashamed to be ignorant of it.

It seems absurd that any man not acquainted with the rudiments of Latin should attempt to enter a learned profession, and it cannot be expected that he can ever be any credit to it, since ignorance of the dead languages almost implies a total want of a liberal education; Latin forming the foundation of almost all that is taught at a respectable school.

The fact is, that most students have been once taught it, but from neglect it has been entirely forgotten; the cause for which may be found in the present absurd practice of apprenticeships, which I may safely state, without any risk of contradiction, to be of no use whatever.

Let the student remain at school, or continue his general education elsewhere, till he is 18, and then commence the study of the medical sciences. Four or five years now devoted to the theory and practice of medicine, will be of much more efficacy than six or seven consumed on the old plan; the first four or five of which are generally entirely thrown away in filling phial-bottles and pill-boxes.

Let the system be discontinued, of apprenticing students at all to private practitioners, and let them all go at the commencement of their studies to a Provincial or London Hospital, where they can both attend lectures and see practice at the same time, and then, in four or five, instead of two or three years as at present, sufficient opportunities will be found for attending to all the subjects now crowded into too limited a period; but all very important and interesting in themselves. This alteration must, however, first originate with the Society of Apothecaries, as they at present require a certificate of apprenticeship for five years with a licentiate of their Company as a necessary testimonial.

Your very obedient servant,

R. H. MEADE,

Lecturer on Botany at the
Middlesex Hospital.

10, Hunter Street, Brunswick Square,
August 25, 1837.

ON THE
ANATOMY AND PHYSIOLOGY OF
THE EYE.

To the Editor of the Medical Gazette.

SIR,

THE subject of the physiology of the muscles and nerves of the eye-ball continuing to attract a considerable share of attention, I may perhaps be permitted again to occupy a portion of your space, while making a few remarks on the paper of Mr. Lonsdale, which appeared in your journal of December 17th, 1836.

With respect to the superior oblique, which is the point first discussed, I admit that my description of the insertion of this muscle was not taken simply from what I had observed in the human eye, for, in the human subject, I am aware that its insertion is rather more posterior than in the eyes of quadrupeds. In the former, it is also intimately connected with the rectus superior, a fact which has not been observed.

Now, in the human eyes, we find that there is a much greater amount of lateral motion, and that the front of the eye is much more exposed than is the case of quadrupeds. Let any one look at the eyes of any quadruped, as the dog or cat, and he will at once perceive the difference. Had the oblique muscles been placed in the human eye as in quadrupeds, it seems to me very clear that the external rectus would have been much more limited in its action, and the greater exposure of the front of the eye, particularly on its outer aspect, thus rendered of no avail.

With respect to the *separate* action of the superior oblique, there is great diversity of opinion. Mr. Lonsdale is inclined to agree with the view taken by Albinus, Sir Charles Bell, Mayo, Dalrymple, and others; although he afterwards reasons upon the presumption that it turns the eye directly downwards, thus coming somewhat nearer the internal direction than the above-named authors. It is quite apparent, however, that no reason can be assigned for this muscle turning the eye downwards in the human subject, whilst in quadrupeds it turns it inwards. The purpose must doubtless be the same in each, for in each it has the same peculiarity of having a separate nerve. We must, therefore, extend our inquiries a little further.

It is an axiom in physiology that where there is much complexity in the human organs, the inquirer is bound to refer to the corresponding parts of the lower creatures, in the assured expectation of finding them more simple, and therefore more easily understood. This is the course I have pursued, and I can say that I have examined this muscle in a great number of quadrupeds, and have uniformly found that its insertion corresponds with the general description I have given. This has been demonstrated to the satisfaction of many of my professional friends, who have also agreed with me, from the direct evidence of their senses, that this muscle has the action I have ascribed to it, viz. of turning the front of the eye inwards.

With respect to the superior oblique in the human eye, then, we are bound to take into consideration what will be the effect, when in action, of its connexion with the rectus superior, or, in other words, what will be the motion of two forces acting in the direction of each of these muscles; for, I think, it can hardly be disputed that the one must have some effect upon the action of the other.

If we could observe the various actions of these muscles, when the whole machinery is in operation, no doubt we should witness a series of movements and checks of the most elaborate and intricate description; and however much we may talk of the action of any one muscle, we should nevertheless find that all are more or less in motion conjointly. That the various antagonist muscles would be found in constant action, in order to keep up a due equipoise of the whole apparatus, is pretty certain; and whatever view we may be inclined to take of the separate action of the oblique muscles, yet if we suppose that one is acting as a check upon the other, we should then, beyond all question, have a directly internal motion of the eye-ball: even Sir C. Bell will agree with us upon this point, for he says, speaking of the oblique muscles, "their combined action draws the eye-ball towards the nose*."

I have assumed that the lateral motions of the eyes are accomplished by the muscles of the fourth and sixth nerves, one in each eye, viz. the external rectus and the superior oblique; whilst the straight forward motions, I agree in

* Nervous System, 4to. page 190.

thinking, are effected by those muscles which are supplied by the third pair of nerves. But it by no means follows that all the muscles of the latter class are perfectly quiescent during the lateral motions. I see no reason to suppose that these muscles cannot at the same time be brought into action, as, for instance, when we wish to look upwards or downwards as well as laterally; compound movements which are probably effected with the aid of the superior or inferior rectus. In like manner there seems no difficulty in supposing the inferior oblique to act as a check upon the superior oblique, and thus assist (if such assistance be deemed necessary,) in producing the directly internal motion of the eye. The subject is so exceedingly complex, and admits of being regarded in so many ways, that I hope to be excused for having gone into it at such length. Thus far in defence of my own views, which I may be permitted to think are at least as satisfactory as any other that have been offered.

In his criticism upon my paper, Mr. Lonsdale appears to me to have given expression to some rather startling propositions; for in one place he says, speaking of the internal recti and the inferior muscles, "their action together cannot do otherwise than turn the axes of the two eyes in opposite directions." Surely, if the two internal recti act together, they must direct both eyes forwards; and with respect to the inferior oblique, Mr. Lonsdale elsewhere contends that they both draw the eyes directly downwards, and not in opposite directions. But another observation, which seems equally strange, and which immediately follows the former, is, that one internal rectus does not act "with the internal rectus of the opposite eye." As this is but a matter of opinion, I can only say that I cannot at all agree with it. Nor will it do to say, as Mr. Lonsdale elsewhere seems to say, that the internal direction of the eyes is effected by the mere relaxation of the external recti, for there is a distinct and fixed action of the eyes, and it is as much a voluntary act as any other can be.

With these observations I dismiss this part of the subject, and proceed to examine two or three points of the second division of the paper.

The first inconsistency I notice is in the following passage:—"If we raise the upper eye-lid, the eye-ball follows with it; if we close the eye-lids, the eye

rolls upwards, and when we open them again it rolls downwards;" all which is tantamount to saying, that when we raise the upper eye-lid, the eye turns upwards; that when we depress the upper eye-lid, the eye turns upwards; and that when we raise the upper eye-lid, the eye turns downwards,—statements which are all opposed to each other and destroy one another, and none of which is correct but the first.

In another place, Mr. Lonsdale tries to make a distinction between the voluntary and involuntary action of the external and internal rectus, muscles which he supposes to act in the lateral movements of the eyes. I ask if it is not more reasonable to suppose that any instinctive action the internal rectus may be presumed to have, would not rather lead it to act with its fellow—the internal rectus of the other eye—connected together, as they are, by a community of nervous influence, than with the external rectus, which is opposed to it in every respect*? Mr. Lonsdale further remarks, that, by a voluntary power, the external rectus turns the eye outwards, and the internal rectus follows involuntarily. Is this correct language to say, that one eye follows the other? or is there not rather a simultaneous action of the two eyes? Where is the proof that one is acting more or less voluntarily than the other?

The strange assertion that the internal rectus is not under the influence of the will, I have before combated.

With regard to the presumed sympathetic action of the inferior rectus with the levator palpebræ, no proof whatever is offered. That there is a sympathy between the superior rectus and the levator palpebræ, any one will admit who recollects that they are supplied with a branch of the same division of the third nerve, that both are united in one common origin, and that both proceed in conjunction for some distance†.

* Whereas, in favour of my view, we have the striking coincidence of the external rectus and superior oblique having each a separate nerve, and being the only muscles so circumstanced in the whole system, thereby forcibly indicating a community of action, as well as the positive and remarkable fact, that the two external recti never can act in concert, while all the muscles of the third nerves act in pairs, and apparently not otherwise.

† That the upper eye-lid should be depressed when the inferior rectus is in action, follows as a matter of course, because the superior rectus never acts or becomes relaxed without a corresponding condition of the levator palpebræ; so that the sympathy of the latter muscle is not with the inferior but the superior rectus, and results from their anatomical relations.

As to the action of the inferior oblique, it is easy to say that it is involuntary,—very difficult to prove it. It must first be decided what is its function. It is very easy to say that it turns the eye upwards in sleep or winking, but who can demonstrate that it does so? My own experiments lead me to regard it as turning the eye inwards. Besides, why cannot the eye be turned upwards by the superior rectus? or downwards by the inferior rectus? For any thing Mr. Lonsdale has shewn, we might as well have had no oblique muscles at all, for he denies that there is any rotatory motion of the globe, in which I think he is correct. That the eye is turned upwards in sleep, and downwards when we awake, is a proposition from which I dissent altogether. I have made many experiments which lead me to reject the supposition*.

The notion that of all the muscles of the globe but two are voluntary, is certainly not less strange than some of the other views given, and is by no means made out by the reasoning employed. That one division of the third nerve should be regarded as voluntary and the other involuntary, is not established on any firmer basis.

The reason assigned for the superior oblique having a separate nerve is certainly a remarkable one, viz. that it is so far distant from the inferior portion of the third nerve, the assumed involuntary branch of that nerve. This appears to be analogous to saying that because it is a little distance from the inferior to the upper portion of the orbit, therefore a special nerve must be brought all the way from the brain, which is many times the distance. This is a species of logic scarcely to be commended.

That the peculiarity in the course and action of the superior oblique should be regarded as a reason for its having a separate nerve is not a jot more clear. The external rectus has nothing very peculiar in its course or action; why then has it a separate nerve? Why, being a voluntary muscle, would not a branch of the superior division of the third have been sufficient?

Mr. Lonsdale concludes his paper by observing that he fears the explanation he has suggested "may seem complicated, and that many may have objections to advance against them." He will not,

therefore, I trust, be much surprised at the foregoing remarks.

The following statements may be considered as a summary of my views on this difficult and complex subject, in which it will be seen how much I am indebted to others, and in what respects I differ from all preceding writers. They may be regarded as so many distinct propositions, each of which seems to arise out of the preceding, and all are connected together. It will be perceived that there is a slight alteration in some of the minor points from my previously published views, but in the main they are unchanged.

The motions of the eyes may be divided into two classes, straight forward and lateral. These motions are effected by distinct sets of muscles, which are under the influence of separate nerves.

The straight-forward motions are effected by the muscles supplied by the third pair of nerves, viz. all the recti, except the external and the inferior oblique, and correspond in each eye.

The *superior recti* occasion the upward direction of the eyes.

The *inferior recti* produce their downward action.

The *internal recti* cause the directly forward motion of the eyes.

The *inferior oblique* produce the extreme inward motion of the eyes, such as in looking at an object very near, or in squinting inwards.

The *superior recti* always act in concert, and cannot act separately.

The *inferior recti* are similarly circumstanced.

The *internal recti*, agreeing in every respect with the superior and inferior recti, also act in concert, and are incapable of acting separately. The same may be said of the *inferior oblique*.

In the lateral motions the eyes do not correspond, one eye being turned outwards and the other inwards.

A separate muscular and nervous apparatus is necessary to effect this opposite action of the two eyes.

The outward direction of one eye is effected by the *external rectus*, which has a separate nerve.

As the other muscles never act separately, so the external recti never act in concert, because their combined action would turn the eyes in opposite directions.

The internal recti never acting but in concert, it follows that some other

* See Philosophy of the Eye. Chapter on the Muscles.

provision is necessary for effecting the internal motion of one eye with the outward direction of the other.

The *superior oblique*, being the only remaining muscle, possessing, moreover, a separate nerve like the external rectus, and turning the eye inwards, I conclude that the internal lateral motion is produced by this muscle, and therefore that it is the associate of the external rectus of the opposite eye.

With respect to the sympathetic motions of the eyes with the eye-lids, there are none but such as take place from anatomical relations, as in the case of the levator palpebræ and the superior rectus in turning the eyes upwards. No connexion exists between the other muscles of the globe and those of the lids, therefore there can be no sympathetic action between them.

Various compound movements take place between the different muscles of the eye-ball, but they all proceed from those previously described.

As regards the distinction between the voluntary and involuntary action of these muscles, it may be stated that there are no actions performed involuntarily that cannot also be performed by the agency of the will, and *vice versâ*.

Your obedient servant,

JOHN WALKER.

Manchester, Aug. 22, 1837.

MEDICAL GAZETTE.

Saturday, September 2, 1837.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL EDUCATION.

MODERN LANGUAGES BETTER THAN A MERE SMATTERING OF CLASSICAL KNOWLEDGE.

As the new season approaches, the same subjects which have often before engaged our attention again come forcibly upon our minds. The first of October is fraught with interest, not only to the profession, but even in a more important degree to the kingdom at large, for it introduces the period at which some hundreds of young men are to commence a course of study, which, short as it is, is intended to supply them

with the greater portion of that knowledge on which the lives and happiness of thousands are to depend; and surely it cannot come without bringing to the mind of all in authority in our profession the great responsibility under which they are placed. On them indirectly depends a great portion of all the comfort or misery which the art of medicine, well or ill administered, may produce. By right or by convention they have bestowed on them the means of demanding from those who intend to practise whatever amount and whatever kind of knowledge they please; and from one motive or other, whatever they require is complied with. The importance of the subject, then, must be a sufficient apology, if, in a general view which we purpose to take of the present state and character of medical education, we may seem to cast any slur upon the plans which those who we do not doubt are as sincere well-wishers for the good of the profession as we are, have laid down.

And to consider first the preliminary education which is required of candidates for the several diplomas. Must it not appear to all strange that the ability to translate a few sentences of Latin, and in one instance of Greek, is all the knowledge demanded of any one about to undertake the practice of medicine? Now what is the hidden virtue supposed to exist in this meagre shred of classical acquirements, which makes its possessor capable of the study or practice of medicine? Simply this. That it is an evidence of his having received an education in a school of at least a decent respectability, and that therefore it is presumable that he possesses sufficient knowledge to make use of the means by which his profession is to be learned. If Latin were in all cases proved to have been well and thoroughly learned, it would afford further presumptive evidence of the ability of the student to learn with equal success any other subject of the same character, and with

somewhat less probability any subject whatever that might be presented to him. But this degree of proficiency in the language it is certain is never expected ; for no one will for a moment maintain that the power of translating an aphorism of Hippocrates, or a sentence of Aretæus from Greek into Latin, is an evidence of high literary attainment ; and yet in the fulfilment of this demand of the College of Physicians, the classic ears of the learned President suffer constant violence from the attempts of those to whom he yet grants the diploma. In a still less degree can the classical examinations of the College of Surgeons (in the few cases in which they are held), or of the Apothecaries' Hall, be deemed tests of any thing beyond the lowest tenth-form knowledge of the language. For example, not long since, when a notice was issued that after a certain day the choice of subjects for examination would be made from two more of the books of Celsus than had previously been required, the number of those who went up to be examined before this day was in each week quadruple of the average. Such a fact as this is the best proof we can offer of the very slight degree of acquaintance which it is generally expected that students should have of the works of Celsus and Gregory. We are fully justified, then, in saying, that the degree of knowledge of the classics at present required, affords nothing more than presumptive evidence, that the student having been educated at a respectable school, is acquainted with the means necessary for attaining further knowledge—as reading, writing, and the elementary parts of general information, and possesses a degree of personal respectability corresponding to that kind of education.

And now the question immediately comes,—if this be all that is effected by

requiring such a preliminary education, is it desirable that the system should be continued? We do not think that it could be with safety abandoned, or at least that it would be safe to admit students to examination without their having testified, by their acquirements either in classics or some other subject generally pursued in schools of respectability, that they have received the education of gentlemen. Every member of the profession has his own station degraded by the admission into its ranks of one below his own level: "*noscitur esocius*" should be the motto, though expressing self-interest, which should guide every one of us in our opinions of the class and grade of respectability which we would admit amongst us. But it may be a question whether it would not be better that some standard of previous education should be adopted, which at the same time that it would indicate the rank in society which the student held, should have some reference to the nature of the subject which is to be the main object of his study—whether those sciences should not be tested, of which a knowledge would be most immediately useful in the study and practice of medicine.

The present average amount of classical acquirements is said to be highly useful, and even necessary, to a medical man ; but if we closely consider it, we shall find that its importance has been much exaggerated, and that it is at least inferior in utility to many subjects that might be included in a preliminary education. The idea of literary acquirements giving a polish to the mind, might be admitted in cases where a proficiency had been acquired ; but we have shewn the general amount of knowledge of students, and it is evident that this is not nearly sufficient to endue them with any one of the advantages which polite literature

affords. Aretæus, and Celsus, and Gregory, may be good classical authors among medical men, but even the profoundest knowledge of all they have written, instead of a superficial acquaintance with a portion of their works, would not constitute a student a scholar; so that if it is to be retained for this reason, attainments of a much higher cast must be required, or the present may be given up.

Again, it is said that it is necessary the students should know Latin and Greek, that they may be able to read the works of many authors whose opinions they should learn, and whose practice they should imitate. We will not here argue whether the majority of those students who have *passed* the classical part of their examinations, *could* read the books of Sydenham, Harvey, Morgagni, or any other author not made the special subject of the test: we will suppose that they could; but surely (though the opinions which we have often advanced are sufficient testimony of the respect in which we think the older authors should be held) a knowledge of these works would be less useful to the majority, whose study has, or, in existing circumstances, should have, a purely practical tendency, than that of the more advanced information contained in the works of contemporary or just antecedent French and German writers.

Although Harvey and Sydenham probably surpass all subsequent medical authors—the one in the clearness of his demonstrations, the other in the accuracy of his observations and descriptions; and though Haller, in the extent of his researches, and the perfect epitome which he gave of medical science in the state in which it existed in his days, has never been equalled—yet it would be absurd to make these the writings on which the knowledge of mo-

dern practitioners should be founded. They would but little avail him, however well known, if he were unacquainted with the more useful works of Laennec or Louis, of Tiedemann or Müller.

Another principal reason for which this knowledge is said to be necessary to the student of medicine, is, that the very language of his profession is unintelligible without it; but really this has as little force as either of the others. As we have before said, it is absolutely necessary that medical education, compressed as it is into so short a period that a scientific attainment in all its branches is utterly impossible, should be, as far as it can be, strictly practical. And it is not with the derivations, but the meanings, of the words employed, that practitioners have to do; with which meanings the derivation has very generally little relation, if it be not altogether in opposition. What matters it (practically speaking), to know that chorea is derived from *χορεία*, or that St. Vitus, whose dance was ill named if it at all resembled that of his disciples of the present day, was the patron saint of a chapel near Ulm, where all the afflicted were cured for one year? or who would more readily discriminate the bones of the carpus, by attempting to find their resemblance to boats, moons, or any other bodies to which wild imaginations have named them after? If the whole medical nomenclature be taken, it will be found that there are very few words whose roots, if they did not lead into error, would do more than afford a slight assistance to the memory in recollecting the names of those things not constantly before our eyes. Besides, it might with nearly equal truth be said, that a person could not acquire a sufficient knowledge of our own tongue, for practical purposes, without an acquaintance with the etymology of the

numerous terms derived from Latin and Greek.

The last consideration which now presents itself to us is the presumed necessity of a knowledge of Latin for the writing and translating of prescriptions. We will only observe, that the composition of prescriptions in Latin is purely arbitrary; and that, while it is abandoned by many members of the profession, there are hundreds who daily dispense accurately without any knowledge of Latin.

In thus passing in review the different uses to which the amount of classical knowledge at present required may be applied by the student or practitioner in medicine, we may have appeared to depreciate it too much; our aim has been to show that it is not of so high importance as is usually presumed, though the sum of the small degrees of utility for each of the purposes we have alluded to would probably be sufficient to make it desirable in all cases that students should possess it, for its advantages to themselves, as well for the evidence it affords of their respectability. And this is more especially the case in the present system, which is prevalent in the majority of schools, of making classics the most prominent subject of study. Considering, however, that a knowledge of modern languages would be of more immediate and practical benefit, and that there are direct applications of the principles of physical sciences in the functions of the human body, which are the objects of medical study, we cannot doubt that it would be better if students were required to possess some amount of knowledge of these.

In making this remark, we have especially in our mind the admirable pamphlet of Mr. Charles Kennedy, called "Classical Education Reformed." Himself a classic of the highest acquirements, and after having attained the

highest honours which the University affords, he has there pointed out, we should think to the satisfaction of those most fond of such studies, the errors of the present system. We cannot well quote from him, because he has to deal with a far higher degree of attainment than medical students possess. But if that higher degree be nearly useless, and if the labour necessary to obtain such a knowledge of the classic authors as would afford the advantages which it is allowed to possess, might be far more profitably expended on subjects of more immediate practical importance—if, we say, this is true of the case which he takes, when the lowest standard is that of the ability necessary to take a common degree at Cambridge or Oxford—how much more strongly would all his arguments be applicable to our case, where the required amount is so far less. With the same views as his brother, Dr. Kennedy, the head master of Shrewsbury, has already introduced the study of the French and German languages into the course of education in that school, and has considerably increased the quantity of mathematics. The system will, we hope, become, in imitation of so high authority, general: the change might be expedited, if, in lieu of, or in addition to, an acquaintance with Latin, a knowledge of French, and of the elements of mathematics and natural philosophy, were required of candidates for the medical diploma. Such studies would be a good occupation for the very generally wasted hours of the apprenticeship.

In conclusion we would repeat, the present amount of classical knowledge required is utterly useless, except in dispensing. The benefits said to belong to it are afforded only by a very much greater extent of knowledge—much greater, indeed, than could be expected of the mass of

students ; while a knowledge of the subjects we have mentioned, were it only a little greater than that at present required in Latin, would find constant application and practical advantages.

CHAIR OF PATHOLOGY.

WE recently alluded to the Chair of Pathology in Edinburgh, and the contemplated establishment of a corresponding one in the metropolis,—or rather the requirement by the University of London of attendance of an *ex professo* course on Pathology. We now subjoin a Memorial, addressed to Lord John Russell by the Lord Provost and Magistrates of Edinburgh, affording strong confirmation of the opinions we formerly expressed.

That your Memorialists, as Patrons of the University of Edinburgh, and as representing the community, respectfully beg leave to lay before your Lordship the following statement regarding the Chair of Pathology, which is about to become vacant by the resignation of the present distinguished Professor, Dr. Thomson.

Prior to 1831, Pathology was not taught as a *separate* branch of medical education in the University of Edinburgh, but was then, and still is, efficiently taught in connexion with other subjects by several Professors of the University. In that year, a Professorship of General Pathology was instituted by the Crown, without any communication with your Memorialists' predecessors, with the Medical Faculty, or with the Senatus of the University. The Chair was given to Dr. Thomson, the present Professor, who was admitted by the Town Council and Senatus under protest ; the former body contending that the creation of the Chair, and consequent interference with their medical curriculum, was an infringement of their undoubted rights as Patrons, as established by the decision of the Supreme Court only two years before, (by which it was found that they had the sole right to regulate the curriculum) ; and both bodies contending, that since Pathology was already efficiently taught in the University in connexion with other subjects, the creation of a new Chair was not necessary for the promotion of medical education, and would be felt by the students to be extremely burdensome, from the number of classes of a similar kind which they were already required to attend.

After the appointment of Dr. Thomson, and when he was in possession of his full rights as Regius Professor, a correspondence on the subject took place with the Government, with the particulars of which it is not necessary to trouble your lordship ; but the result of the correspondence was, that the Town Council agreed to make the Class imperative, and the Government agreed to give the patronage of the Chair to the Town Council in all time coming. It was however stipulated by the Government, that the Professor of Pathology should enjoy all the rights and privileges belonging to any of the Professors of the University ; and since there was no salary attached to the Chair, this was understood to mean that it was to form part of the Medical curriculum, and that attendance on it should be imperative on all the graduates, as was then the case with a large proportion of the other Medical Chairs of the University.

Although the institution of the Chair was so far justified by the great eminence of Dr. Thomson, yet, after an experience of five sessions, your Memorialists are obliged, although with great reluctance, to express a decided opinion, that its creation as an *additional imperative class* has been injurious to the University. The Medical Faculty of the University have likewise unanimously expressed an opinion to the same effect ; and your Memorialists have reason to believe that the same sentiments are entertained by an immense majority of those who are best qualified to judge on the subject.

Your Memorialists are at present induced to bring the subject under the notice of your lordship, not from any wish to interfere with the vested rights of the present distinguished incumbent, but because that gentleman has recently intimated to them, that on account of the state of his health, he is unable to conduct the Class, and is willing to resign on such conditions as a committee of their number shall in the circumstances think right. The committee has accordingly fixed on a proper sum as a retiring allowance to be paid to Dr. Thomson, annually, during his life ; and your Memorialists expect to be able to make arrangements for its payment, if the Government shall acquiesce in the abolition of the Professorship of Pathology as a *separate Chair*, allowing that important branch of medical science to be taught by other Professors in the University, in the same manner as it is taught in all the best-conducted medical schools in the kingdom, without a single exception. This proposal is so reasonable in itself, that your Memorialists trust no lengthened argument will be necessary to convince her Majesty's Government of its propriety

and expediency. With this impression, they consider it unnecessary to do more than submit the following short statement of facts.

Your Memorialists and their predecessors have long been impressed with the importance of sustaining the high reputation of the University as a medical school, by requiring a high standard of education; and with this view they have, from time to time, with the concurrence of the Senatus Academicus, made various additions to the medical curriculum for the degree of M.D. Within the last twenty years they have increased the number of imperative classes from *seven* to *fourteen*; they have doubled the amount of hospital attendance, and they have required an additional year's study. They have likewise enforced apprenticeship, or other equivalent means of obtaining *practical* information. In consequence of these additions, even although the Chair of Pathology were abolished, the medical curriculum for the University degree would be far more extensive than that of any other medical school in the three kingdoms. In the University of Glasgow, which comes nearer to Edinburgh, both in the value of its degree and in the annual number of its graduates, than any of the medical schools, there are only eight imperative classes, while the attendance required out of the University, in order to acquire a *practical* knowledge of the medical profession, is likewise considerably smaller.

* * * *

This great difference between the curricula of the two Universities, has for several years had the effect of inducing a comparatively greater number of students to take the degree of the Glasgow University in preference to that of Edinburgh, the privileges conferred by both being equal; so that the attendance at Glasgow has increased, while the attendance at Edinburgh has diminished,—a diminution which, your Memorialists regret to say, has assumed a very serious aspect since the commencement of the imperative class of General Pathology, in November 1832, as will be seen from the following statement:—

Number of Students attending the University of Edinburgh.

Average of five years, ending with session commencing in November 1826	846
Average of five years, ending with session commencing in Nov. 1831,	842
Year commencing November 1832 ..	824
Year commencing November 1833 ..	718
Year commencing November 1834 ..	703
Year commencing November 1835 ..	680
Year commencing November 1836 ..	623

It appears from the above statement, that since November 1831, the *decrease in attendance* at the University of Edinburgh has been from 842 to 623, or 26 per cent., while during the same period the *increase* in the number of *graduations* in the University of Glasgow has been from 35 to 101, or nearly 200 per cent.

* * * *

Although six years have now elapsed since the institution of the Chair of Pathology in the University of Edinburgh, no steps have been taken by the government for the institution of any similar separate Chair in any other medical school in Great Britain or Ireland, although, if such a Chair, as a separate class, had really been indispensable for acquiring a proper medical education, it was more peculiarly incumbent on them to have created such professorships in all the other medical schools, than in Edinburgh, where the standard of education had long been greatly above that required for any other degree of M.D. Equal justice imperatively required, that after government had instituted such a Chair in the University of Edinburgh, they should have instituted one of the same kind in the other medical schools; and since this step has *not* been taken, a very strong reason presents itself why Her Majesty's government should *now* acquiesce in the abolition of the Chair as a separate class, in order that pathology may be taught in the University of Edinburgh, as it is taught in all the other medical schools, by a plurality of Professors, in the course, and as the foundation, of their lectures on other departments of medical science.

* * * *

For the reasons which have been already stated, and others which might be detailed, if it were not for the length to which the present Memorial has already extended, the Town Council, after maturely deliberating on the subject, on the 8th instant, resolved (only four members voting against the proposal), to “concur in the unanimous opinion expressed by the medical faculty of the University on 7th July, ‘that the class of general pathology being imperative on candidates for graduation in Edinburgh, is peculiarly oppressive, as there is no similar Chair in any other University in Great Britain or Ireland;’ that it is injurious to the interests of the University, and consequently to the city, and that it ought therefore to be abolished at the earliest possible period.”

* * * *

Signed in name and by appointment of
Council,
JAMES SPITTAL, *Lord Provost.*

DEATH OF MR. BROUGHTON.

WE regret very much to have to record the death of Mr. Broughton, which took place last week, in consequence of disease of the ankle-joint, for which amputation of the leg became necessary.

Mr. Broughton was much devoted to his profession, and had bestowed a large share of his attention on physiology, in which he had made no inconsiderable attainments. On the occasion of his fatal illness he displayed great fortitude. When he observed Mr. Cooper endeavouring to break to him the necessity of losing his limb, he at once interrupted him, saying, he saw how it was—that the leg must come off, and that he should have it done next day. Immediately after this interview he got into his gig, made his servant drive him to the Cemetery, on the Harrow Road, where he chose a spot for his grave, and on his return home he wrote a memorandum, directing that he should be interred there if he sunk after the operation. His forebodings proved too well founded; the operation was performed by Mr. Liston, with his wonted dexterity, but the constitution of his patient was unable to rally against the shock.

GENERAL LYING-IN HOSPITAL.

MIDWIFERY REPORTS.

BY EDWARD RIGBY, M.D. F.L.S. &c.

[Concluded from page 813.]

MRS. WILTSHIRE, æt. 38; April 8, 1835. A well-shaped woman, of the middle size, pale, faint, scarcely any pulse. On the 3d instant, whilst engaged in cutting bread and butter for her children, was suddenly surprised by a profuse hæmorrhage from the vagina, which, according to the attendant's account, filled "nearly half a pail-full." She became exceedingly faint, but by keeping very quiet, the hæmorrhage ceased. She knows of no cause which could have induced it. A slight return of the hæmorrhage appeared on the 6th.

Pains having commenced on the morning of the 8th, and several large coagula having been expelled, the midwife in attendance sent for me. I found her much exhausted. On examining per vaginam, the os uteri was dilated to about an inch and a half, and covered by the placenta. No presenting part of the child

to be felt: the cervix was still distinct. On introducing my hand, it entered the uterus in the direction of the left sacro-iliac synchondrosis, and I passed it nearly to the fundus, where, feeling the extremities of the child, I ruptured the membranes. A small quantity of brown fetid liq. amnii had escaped just before I examined. I felt the knee of a large child, and brought it down, and regretted that I did not wait a little longer to bring down the feet, as the whole operation was effected with great ease. The child was very flabby: no pulsation in the cord. I gave her a dose of ergot, and the delivery was quick and easy. The uterus contracted, but a portion of the placenta adhered so firmly to the edge of the os uteri that I was obliged to tear it away. The uterus showed a slight disposition to relax, hæmorrhage appeared, and her faintness now became very alarming. Brandy and water were given, and the ergot was repeated. Cold applied in the common way by means of wet cloths appeared to have little or no effect in exciting contraction; a stream of cold water was therefore poured upon the abdomen from a height, and this, together with a firm bandage, at length placed her in a state of comparative safety. She was directed to take a tablespoonful every hour of the following mixture:—

R Sp. Ammon. Aromat. Tr. Hyosc. aa. 3ii. ; Tr. Camph. Comp. 3i. ; Mist. Camph. 3viiss. M.

In about six hours after her delivery, her husband came to tell me that she had had a convulsive fit; I therefore sent him immediately for the following pills:—

R Camphoræ, Ext. Hyosc. aa. gr. v. statim sumend.

and was with her in half an hour after. She was extremely weak, and there was much disposition to vomit; but although her face had a yellow parchment-like colour, her eyes were bright, and had none of that glassy appearance so frequently observed in such extreme cases. The heat of the body was good, and the pulse had become fuller; she complained of slight pain in the abdomen, apparently from after-pains. She was directed to take small quantities of beef-tea, calf's-foot jelly, and gruel very frequently, and to repeat the mixture if necessary.

9th.—Feels much better; has slept for about three hours refreshingly; slight pain of abdomen; cough very troublesome. A common cough mixture was ordered.

10th.—Better; cough still troublesome. Although my friend Dr. Hamilton might feel inclined to suppose that this

was one of the imaginary cases of placenta prævia, which his remarkable powers of diagnosis have enabled him to discover in my father's Essay on Uterine Hæmorrhage, still I think that most accoucheurs of the *present* day will agree with me in saying that there could be little mistake here as to the nature of the cases. The character of the hæmorrhage, coming on so suddenly, so profusely, and without any assignable cause, would alone lead one to expect that the placenta was attached to the os uteri. Although the os uteri was far from being fully dilated, yet such was the relaxation of the soft parts from the loss she had sustained, that my hand experienced little or no resistance. In passing my hand I directed it towards the left sacro-iliac synchondrosis, insinuating it first between the placenta and os uteri, and afterwards between the membranes and uterus until I had reached the extremities. By this means I gained several advantages of considerable importance, which have been pointed out by Dr. Dewees in so clear and practical a manner that I will take the liberty of quoting them.

"We are advised by some to pierce the placenta by the hand; but this should never be done, especially as it is impossible to assign one single good reason for the practice, and there are several very strong ones against it.

1st. In attempting this, much time is lost that is highly important to the patient, as the flooding unabatedly, if not increasingly, goes on.

2nd. In this attempt we are obliged to force against the membranes, so as to carry or urge the whole placental mass towards the fundus of the uterus, by which means the separation of it from the neck is increased, and consequently the flooding augmented.

3rd. When the hand has even penetrated the cavity of the uterus, the hole which is made by it is no greater than itself, and consequently much too small for the fœtus to pass through without a forced enlargement, and this must be done by the child during its passage.

4th. As the hole made by the body of the child is not sufficiently large for the arms and head to pass through at the same time, they will consequently be arrested, and if force be applied to overcome this resistance, it will almost always separate the whole of the placenta from its connexion with the uterus.

5th. That when this is done it never fails to increase the discharge, besides adding the bulk of the placenta to that of the arms and head of the child.

6th. When the placenta is pierced we augment the risk of the child, for in

making the opening we may destroy some of the large umbilical veins, and thus permit the child to die from hæmorrhage.

7th. By this method we increase the chance of anatomy of the uterus, as the discharge of the liquor amnii is not under due control.

8th. That it is sometimes impossible to penetrate the placenta, especially when its centre answers to the centre of the os uteri; in this instance, much time is lost that may be very important to the mother."

The importance of not rupturing the membranes until we can reach the extremities, in cases requiring turning, was pointed out long ago by Pen, and although sanctioned by Deleurye, and also by Dr. Hamilton in 1775, has excited little or no attention. By not allowing the liquor amnii to escape, we prevent the uterus from contracting upon the child, and thence turning with these precautions is rendered remarkably easy and safe. If there be any circumstances under which the ergot is peculiarly valuable, it is in cases of turning, where the uterus is so very liable to cease acting at a moment when it is of the greatest importance that there should be powerful pains to expel the head of the child and ensure firm contraction afterwards. The adhesion of a small portion of placenta to the os uteri was of the same nature as that which I have already described in Mrs. Harvey's case, and required some little force to remove it, although the greater portion of the placenta had already passed the os externum. In the extremely exhausted state of the patient, hæmorrhage coming on after labour was very alarming, and as this arose from want of contraction, I used the most powerful means I could then command to rouse the uterus to greater activity. The convulsions which attacked her in six hours afterwards showed how severely she had been reduced. Diffusible stimuli, mild sedatives, and bland nourishing food, in small quantities at a time, and frequently repeated, constituted the chief treatment.

With regard to the frequency of placenta prævia, I willingly own that when compared with the number of labours which occur in the practice of one individual, it must be looked upon as a case of considerable rarity; but when we call to mind the peculiar circumstances under which my father was placed, viz. of being appointed to attend all the poor women in a large and populous city who have difficult and dangerous labours, the remarkable number of these cases to which he was called can be easily accounted for; the more so when it must be recollected that

many occurred in the practice of other medical men, not merely in Norwich but at some distance in the country, by whom he had been called in consultation. How otherwise could I myself, after few years of practice in comparison, have witnessed *at least* eight cases, of most of which I have taken notes? simply from being connected with a large midwifery hospital, and having no less than twenty-four midwives under my superintendence in different parts of the metropolis. My father goes on to observe, "I thought it right to premise this, as were it not known what circumstance gave me an opportunity of collecting them, the number of cases, when compared with the short space of time in which they occurred, must appear so extraordinary (exceeding in so great a proportion the number usually met with even in the most extensive *private* practice) as possibly, with some readers, to render their authenticity doubtful, and consequently to invalidate the reasoning deduced from them*." The recent insinuations that my father did not really meet with the number of cases which he has recorded are of a character so unjust and ungenerous as to be quite unworthy of any notice.

ON SOME PECULIARITIES OF INGUINAL HERNIA,

AND THE RADICAL CURE BY IODINE
INJECTIONS.

BY M. VELPEAU.

Few questions in surgical pathology have received more attention than those of abdominal herniæ; yet there are, notwithstanding the good works published on the subject, still several obscure points worthy the attention of practitioners. The patient lying at No. 30 in the ward of the Holy Virgin, on whom I operated on the 9th of July, leads me to offer to you some considerations on certain varieties of inguinal hernia in particular. The operation showed us that this man was affected with an inguinal hernia contained in the tunica vaginalis; that this tunic was nevertheless the seat of an hydrocele, and that the strangulation took place in the abdominal walls,—that is, in the inguinal canal, or rather at its posterior ring. Here are three important points which authors have not sufficiently insisted on, and which it is nevertheless highly necessary to be acquainted with. You may judge of them by the following considerations:—1st, of the inguinal hernia called congenital;

2d, of the effusion of liquid into the hernial sac, whether vaginal or peritoneal; 3d, of hernia in the interior of the inguinal canal.

1. *Congenital Inguinal Hernia.*

Pathologists understand by this the hernia from birth,—that which takes place into the tunica vaginalis when that serous cavity is not yet obliterated at the external inguinal ring. This definition is not quite exact, and contains an error, of which I must make you aware: the patient I have spoken of is a proof of it. It is generally believed that the hernia which takes place into the tunica vaginalis is always congenital, or has taken place a few years after birth. Most frequently, it is true, the tunica vaginalis is obliterated at its superior part a short time after birth; but this is not a constant fact. Callisen and Monro say they have observed in adults a small canal passing from the tunica vaginalis into the abdomen. I have myself several times seen in the dead body the tunica vaginalis unobliterated. Besides this patient, I have two other cases in support of what I advance: the first was in my private practice; the second presented itself in 1829, at St. Antoine, when I had the charge of that hospital. A student in medicine, after a long run, found a hernia forming on his return home in the evening. When called to him, I discovered a strangulated inguinal hernia. Not being able to reduce it, I proceeded to the operation the day after the accident, and convinced myself that a portion of intestine was in the tunica vaginalis. He recovered, and both he and his parents assured me in the most positive manner that he had never had hernia before. This fact may not appear conclusive, because there was no post-mortem examination; but here is another which can leave no doubt on the point.

A young wine-merchant, aged 23, came into the hospital St. Antoine, for strangulated inguinal hernia. He assured me he had never observed a tumor in that region, and that it had come that very morning. Not being able to reduce it, I operated, and four days after the patient died. On the dead body we found that the hernia was contained in the tunica vaginalis, and that the cavity of this membrane was evidently continued, in the form of a canal, into the interior of the abdomen. Similar facts have been moreover observed in the practice of Sir A. Cooper, M. Roux, Dupuytren, &c. It is therefore certain that inguinal hernia into the tunica vaginalis may take place in adults. The denomination of congenital hernia is not correct; it would be more rational to

* Preface to 4th Edition.

call it *hernia of the tunica vaginalis*, and it might be divided into congenital and accidental.

2. Effusion of Liquid into the Hernial Sac.

This complication of hernia, this species of hydrocele, is not rare. There are few practitioners who have not observed it; yet it has passed, as we may say, unnoticed, and authors have spoken of it in only a very superficial manner: in the works especially devoted to herniæ, no particular chapter is given to it.

It presents three varieties, which must not be confounded, and to each of which I wish to call your attention. The first is peculiar to inguinal herniæ; the two others are found also in the other abdominal herniæ.

1st variety.—Strangulated inguinal hernia, outside the tunica vaginalis, with effusion of liquid into the cavity of that membrane; that is, inguinal hernia complicated with common hydrocele.

2d. Hydrocele in the hernial sac, with strangulation either of the omentum or of the intestine.

3d. Hydrocele in the hernial sac, whether vaginal or peritoneal, after the reduction of the omentum or intestine.

The first variety, noticed especially by M. Tessier*, is easily conceivable. The intestine or omentum, contained in the serotum, is separated from the tunica vaginalis only by a partition. The irritation which the hernia produces may be such that the membrane secretes a greater quantity of fluid than in the normal state: hence a collection of serum, as in the simple hydrocele. Facts of this kind are not rare; I have met with several. They are especially observed when long trials at reduction are made before proceeding to the operation. It is not necessary to point out to you the importance of this complication of hernia; in fact, the practitioner who was not aware of it, might commit a serious error by taking a hernial tumor for a simple hydrocele, and in the puncture, wounding the intestine might bring on a result which you may easily conceive.

The second variety is less known than the preceding. Almost all surgeons, it is true, have remarked and pointed out the existence of a certain quantity of serosity in the sac of the strangulated hernia, but they have said nothing, or scarcely any thing, of this hydrocele as a disease, or a complication which might induce error. Facts of this kind, however, are not rare. Saviard says he had found a pint of liquid in a hernial sac; Mery drew off more

than a pound; Monro speaks of 6 pounds, and Scarpa of 3. Other authors content themselves with citing cases where they found a *considerable* quantity. Besides the fact of the man I have already spoken to you of, I have observed several others. Those of you who regularly follow me, observed at the end of 1836, a woman in whom the sac of a crural hernia contained more than 6 ounces of serum. She had been subjected before she came to the hospital to long and repeated attempts at reduction. A portion of intestine, of the size of a nut, closed the ring. The most remarkable fact of this kind observed by me, was at St. Antoine, in 1829. The tumor, furrowed on its surface by large veins, had the size of an adult's head. On operating we found more than three pints of fluid in the sac, and a portion of the descending colon of the size of an egg strangulated in the left inguinal ring. We may easily account for this accumulation of fluid; the portion of peritoneum which constitutes the hernial sac being more or less irritated by the presence of the omentum or intestine, secretes an unnatural quantity of fluid. Every thing takes place as in the preceding cases. Prolonged attempts at reduction also favour this complication; the practitioner unacquainted with it might make a diagnosis, of which the consequences would be fatal to the patient.

The third variety of herniary hydrocele is the least known. After reduction the inguinal canal may be obliterated in some hours; then the portion of the peritoneum which contained the hernia represents a cavity without opening, which, more or less irritated by the previous presence of the intestine, secretes a more or less considerable quantity of fluid. There is now a real acute hydrocele, which may be established in 24 hours, and which must not be confounded with the chronic hydrocele of old obliterated hernial sacs. I have already recognized several cases of this kind; two amongst them you may have observed at the beginning of this year.

A man came under my care with strangulated inguinal hernia; I reduced the intestine, and the next day we found in its place a fluctuating tumor. You may remember that I immediately told you this tumor was produced by an effusion of fluid into the hernial sac. After a few days a puncture confirmed my diagnosis, and gave issue to more than eight ounces of liquid. In the other patient the circumstances were just the same.

Convinced by a number of facts of the efficacy of iodine injections in simple or complicated hydroceles, I soon asked myself if obliteration of the hernial sac might not

* Arch. Génér. de Méd. t. iv. p. 497.

be obtained by the same means. Similar trials have been made into the whole peritoneal cavity with wine injection, and I could conceive all the surgeon's fears after such an attempt. But in the case I have mentioned, I had not serious dangers to apprehend, and I made the iodine injection on the patients without fear. You know that we have observed in them the same phenomena as after the operation for hydrocele of the tunica vaginalis, and the patients are perfectly cured. More lately we have had occasion to employ the same means on a man lying in the same ward, and success has again crowned our attempt. Facts are not yet, I confess, sufficiently numerous to permit me to use this remedy as a general rule; but every thing tends to the hope that it will occupy a useful place in the radical cure of herniæ. I have operated for congenital hydrocele with the iodine injection, and I dare affirm, that with the precaution of compressing the ring, the operation is unattended with any danger.

M. Velpeau's remarks on inguinal hernia in the canal, or incomplete inguinal hernia, as it is commonly called, present nothing new, and we therefore omit them. The fluid which he uses for injecting hydroceles is composed of one or two drachms of the spirituous tincture of iodine, mixed with an ounce of distilled water. This, as appears from a paper in the "*Archives de Médecine*, Janvier 1837," he injects three or four times; it does not need that the cyst should be filled each time, nor that all should be removed from it: it produces very little pain either at the time of, or after the operation. The patient may walk about on the very day of it without inconvenience. Its advantages are, the ease with which the operation may be done, without preparation, with a common three or four-ounce syringe, and almost a certainly beneficial result, even in complicated cases.

SECRETION OF MILK IN THE MALE.

THIS case occurred in a robust sanguine soldier, 22 years old, whose genitals were well formed, but whose voice and beard were not yet well developed, and who had been for two years addicted to onanism and venery. When 18 years old he often felt a pricking sensation in his breasts, and slight periodical colic. About a year later he observed, after each occurrence of such symptoms, a slight swelling of, and milky discharge from, the mammæ; and, during work, his shirt was several times a week wetted with it. When in the hospital for acute rheumatism, a considerable

quantity of milk was found to be secreted. On examining the breast and nipples, the latter were found highly red, erectile, somewhat cracked at their apices, and much higher than in men generally, and surrounded by a somewhat darker areola, through which a subjacent vascular network could be seen. On pressing the papillæ, two or three fine streams of milk would jet out of minute orifices; it had a bluish white colour, and a very sweet taste. The secretion was constant, but increased at varied periods, especially at night, producing a somewhat painful sensation till it was evacuated. The usual quantity was from half an ounce to an ounce daily, but sometimes not more than two or three drachms. On one occasion a wine-glassful was drawn off, and in the fortnight that he was under observation, ten or eleven ounces were secreted. After the evacuation of it he said he always had headache, faintness, and sometimes pains in the abdomen. Diet had no material influence on the secretion. Collected in a glass, and left quiet, cream soon separated, and sometimes the milk at once coagulated. After some hours' standing the butter separated and floated at the top in yellow drops. The milk had a slightly alkaline reaction. Its specific weight was 1024; and it contained, according to the analysis of Mayer, in 100 parts—

Fat	1·234
Alcoholic extract ..	3·583
Watery extract	1·500
Insoluble	1·183

Total solid contents. 7·500

Dr. Schmetzer, of Heilbronne, in Schmidt's Jahrbucher, Juli 1837.

DISCHARGE OF A BEETLE FROM THE URINARY BLADDER.

A ROBUST young man of 23, who had never been ill except just previously of fever, was attacked suddenly by symptoms of the most acute inflammation of the urinary bladder, with intense desire to make water, pains in the perineum, and discharge of mucous flocculent and bloody urine. He was treated by leeches to the perineum, anodyne local applications, and copious demulcent drinks, but without the least relief. After suffering intensely for five days, he found himself unable to pass his water, and this evidently from some mechanical obstruction in the urethra. To relieve this, the author was sent for; but before a catheter could be introduced, he discharged a body, of the size of a pea, covered by purulent matter; it was followed by the escape of a considerable

quantity of urine, mixed with pus, and immediate relief of all his symptoms. On closely examining the discharged body, it was found to contain a little beetle (*Ptinus fur.* Linn.), which died directly on its exposure to the atmosphere. The patient recovered in three days.

The author quotes several cases of a similar kind; in which worms, larvæ, insects, and one from Schrader, where living slugs were discharged from the bladder, and speculates at great length and with much ingenuity on their origin; but this our readers can do too, and perhaps with equal profit.—*Dr. Erismann, in Schmidt's Jahrbucher, from the Schweiz. Zeitschrift, vol. ii. part 1.*

ON TOOTHACHE FROM CARIES.

TROSCHEL has followed up some observations made by him last year in a Prussian medical journal, in which he endeavoured to prove that the violent pain which occurs in caries of the teeth is not caused by the laying bare of the nerve; and that caries, if unaccompanied by any other ailment, is in most cases free from pain. There are exceptions, however, to this rule which are not uncommon.

We find ordinarily two or more carious teeth together, of which very often one gives great pain, and the others, which are much more injured, and in an apparently worse condition, give no pain. Despite of all palliatives, and all possible attention in the avoidance of cold, the pain often lasts whole weeks, with increasing or decreasing violence; there is congestion and repeated swelling of the face, sleep and appetite are banished, and even the good constitution of the sufferer begins to be affected. After the tooth, the author of all this suffering, has been drawn, all complaints cease, and the patient soon recovers.

If the extracted tooth be now broken in two, or, what is better, sawed longitudinally through the centre, we find that from the carious part, which is often very distant from the nucleus, there extends a black or brown streak into the cavity of the tooth where the nerve lies. Sometimes this streak is not very distinctly marked, and in this part the substance of the tooth is only a little less white, duller, and more pellucid than the surrounding structure. This change of colour occurs on this account, because that the canals in the substance of the tooth, which lie in layers close one behind another, and pass from the circumference to the centre, are permeated with pus (according to the examinations of Purkinje, Valentin, Gurlt, and Müller;) they are denominated by the last-

mentioned author, "caniculi chalicophori." In caries of the crown of the tooth, the phosphate of lime which is contained in these canals is absorbed, and during the suppuration the carious matter infiltrates still farther from the base of the abscess into these little pores: then not only the white colour is lost, but the nucleus of the tooth (the nerve of) becomes affected, and this causes the most intolerable pain.

Every dentist of observation has seen those dark streaks which pass to the nerve; the little canals can, however, only be seen under the microscope, and then only on thin sections of the tooth prepared on a grinding stone.

It is only from very acrid applications, and such as for a period paralyze the nerve, that any alleviation is to be obtained from the torture one suffers, and which arises in the manner we have described. Even the application of the actual cautery to the carious hollow has no lasting effects, and the extraction of the tooth remains as the only resource.—*Dublin Journ.*

TREATMENT OF SCABIES BY SIMPLE MECHANICAL MEANS.

THE administration for hospital affairs has caused the treatment recommended by Staff-Surgeon Dr. Köhler to be employed from June to the end of December, on all the patients affected with scabies in the Charité. This treatment is purely mechanical, and consists simply in frictions with a mixture of finely-powdered brick dust (Ziegelmehl.)

The result of this treatment has been, that in the time mentioned 578 patients have been discharged from the institution, who have remained there a period of 10,576 days, which allows eighteen days and a half on an average for the cure of each patient.

Now as in the ordinary treatment pursued at an earlier period in the Charité, by means of frictions with an ointment composed of green soap and sulphur ointment, on the average fourteen days were necessary for cure, and as it has occurred frequently in the seven months before specified, that persons who appeared perfectly well when discharged, have again returned affected with itch, which has not been remarked as of such frequent occurrence during the period when the sulphur ointment was employed; therefore, for the interest of the patients, the hospital conductors have thought fit to abstain from the further use of mere mechanical means, and again to return to the more successful method, that of rubbing in the sulphur ointment before mentioned.—*Berlin Medical Times*; and *Dublin Journal*.

FRICTIONS WITH LARD.

THE newly prescribed frictions with lard do good service, not only in profuse and colliquative perspirations (particularly at the upper part of the body), but have also been found of the greatest use to other hectic subjects, whose skins were not particularly active, as in various kinds of asthma. — *Dr. Hoffmann in Medicinische Zeitung in Preussen*; and *Dublin Journal*.

NEW MEDICAL BOOKS.

Dr. A. Paul on Costiveness, 8vo. 5s.

Van Butchell on Fistula, &c., 8vo. 5s.

Dr. J. Wardrop on Diseases of the Heart. Part I., 8vo. 4s. 6d.

Hints to Parents who intend to bring up their Sons to the Medical Profession. By W. Denham, 18mo. 3s. 6d.

RECEIVED FOR REVIEW.

Traité pratique sur les Maladies des Organes Genito-urinaires, par le Docteur Civiale. Première Partie: Maladies de l'Urètre.

On the Advantages of Exercise in some Spinal Deviations, addressed to Sir Benjamin Brodie, Bart., F.R.S. By A. M. Bureaud Riofrey, M.D.

COLLEGE OF SURGEONS.

LIST OF GENTLEMEN WHO RECEIVED DIPLOMAS IN AUGUST.

E. Des Forges, Hull.—B. G. Evans, Cardigan.—G. Gould, Yarmouth, Norfolk.—W. H. Hobkirk, Pewsey, Wilts.—S. Potter, Liverpool.—W. Brailsford, Enfield.—R. Baker, Cavan.—W. Dume, Canterbury.—B. Compton, Lancaster.—R. B. Gregory, Northampton.—W. Laycock, London.—G. Reece, Cardiff.—L. Gould, Cork.—A. Paul, Exeter.—G. F. Bloxsome, Dursley.—F. G. Harrison, Camberwell.—J. Jones, Rockhampton, Gloucestershire.—H. J. Owen, Shrewsbury.—E. Campbell, Looe, Cornwall.—E. Russ, Castle Cary.—Jesse H. Newington, Ticehurst.—J. B. St. Croix Crosse.—T. J. Coghlan, London.—J. Pease, Tavistock.—J. W. Stapleton, Trowbridge.—T. A. Henderson, St. John's Wood.—J. Denne, Wingham, Kent.—J. Stokes, Caher, Tipperary.—J. F. Knighton, Dawlish, Devon.—W. Gylby, Retford, Notts.—Steph. Balfour, Aberdeen.—G. E. Evans, Tiverton, Devon.—J. Mitchell, Ellon, Aberdeenshire.—J. Alexander, Dublin.—Henry Somerville Stafford.—J. Plomley, New South Wales.—James D. Vernon, Sligo.—J. L. Wright, Rotherhithe.—G. F. Ferris, Truro.—H. R. Gleadowe, Liverpool.—G. Ridsdale, Durham.—J. M. Minter, Flushing.—W. T. Blake, Gorley, Wexford.—Abraham J. Williams, Bala, Merionethshire.—P. Kelly, Tuam.—G. Pearse, Jun. Marsham Street, Westminster.—F. H. Nichol, Aberdeenshire.—Arthur Macann, London.—S. Chapman, Nottingham.—J. Harmar, Birmingham.—G. Johnson, Sydney, N. S. W.—J. Lloyd, Anglesea.—J. Milne, Oathlaw, Forfarshire.—G. J. Arnold.—G. M. Crockford, Lewes, Sussex.—R. Herdman, Dublin.—W. Jenner, Rochester.—B. W. Bradshaw, Clonmell.—H. May, Sheffield.—J. Horsford, Ballyhooly, Cork.—J. Mouat, London.—T. Smith, Leeds.—J. W. Ilott, Bromley, Kent.—W. Furnival, Manchester.—A. Leggatt, Guildford.—W. Williams, Tetbury.—H. Lucas, Kilrush.—W. B. Hemming, London.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Aug. 31, 1837.

John Edye, Nedging, Sufford.—Charles Vines, Reading, Berks.—William Bransley Francis, Beccles, Suffolk.—Thomas Tovey Smart, Bristol.—Thomas Small, Boston, Lincolnshire.—Edward Jay.—Robert James, Bath.—Francis Decimus Thompson.—Charles Rose, London.—John Kirkhouse Cook, Llannelly, Carmarthenshire.

WEEKLY ACCOUNT OF BURIALS.

From BILLS OF MORTALITY, Aug. 29, 1837.

Abscess	4	Inflammation	19
Age and Debility	23	Bowels & Stomach	4
Apoplexy	1	Brain	1
Asthma	8	Lungs and Pleura	4
Cancer	1	Influenza	2
Childbirth	5	Insanity	2
Cholera	1	Measles	14
Consumption	35	Mortification	2
Convulsions	31	Paralysis	2
Dentition or Teething	9	Small-pox	8
Diarrhœa	2	Sore Throat and	
Dropsy	8	Quinsey	2
Dropsy in the Brain	4	Spasms	1
Dropsy in the Chest	1	Thrush	1
Erysipelas	1	Tumor	1
Fever	12	Unknown Causes	15
Fever, Scarlet	8		
Fever, Typhus	3	Casualties	4
Hooping Cough	9		

Decrease of Burials, as compared with }
the preceding week } 54

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

Aug.	THERMOMETER.		BAROMETER.	
Thursday . 24	from 44 to 69		30·08 to 30·10	
Friday . . 25	32	67	30·11	30·06
Saturday . 26	37	70	29·84	29·85
Sunday . . 27	32	60	30·03	30·09
Monday . . 28	30	63	29·98	29·73
Tuesday . . 29	42	61	29·53	29·40
Wednesday 30	41	57	29·34	29·42

Winds, N.E. and N.W.

Except the 24th, 25th, and 27th, generally cloudy, with frequent showers of rain; a violent storm of thunder and vivid lightning, accompanied with heavy rain, from about half-past 11, A.M., to a quarter before 2, P.M., on the 26th, and thundering at times during the afternoon of the 30th.

Rain fallen, ·2 inches, and ·225 of an inch, of which ·1 inch and ·2 fell during the storm of the 26th.

CHARLES HENRY ADAMS.

NOTICE.

We cannot regard the letters of Dr. Sims and Mr. Smith, forwarded by Mr. Peter Morrison, otherwise than as advertisements.

ERRATUM.—In leading article of last week, line 12 from beginning, for "known," read "unknown."

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SATURDAY, SEPTEMBER 9, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMA-
COLOGY, AND GENERAL
THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, Esq., F.L.S.

LECTURE LXXII.

EUPHORBIACEÆ—continued.

THE next genus which we have to consider is *Croton*; and first of—

Croton Cascarilla (Linn.)

History.—This bark was first mentioned by Stisser in 1686 (*De machinis fumiduc-toriis: Hamburgh, 1686*), at which time it was used in this country, mixed with tobacco, for smoking.

Botany.—Cascarilla bark is the produce of a species of *Croton*, probably of the *Croton Cascarilla* of Linneus. Catesby, in his *Natural History of Carolina, Florida, and the Bahama Islands*, has noticed and figured a plant which he says grows plentifully on most of the Bahama Islands, and yields Cascarilla bark, or, as he calls it, “The Ilatheria bark, *La Chacrilie*.” He describes it as being a shrub seldom more than ten feet high, with a stem rarely as big as a man’s leg; the leaves are long, narrow, and sharp-pointed, and of a pale green colour. The flowers are small, white, and hexapetaloid. The fruit a trilocular pale green capsule. He seems uncertain of the proper name of the plant, but says, “An *Ricinoides eleagni folio*?” This plant Linneus called *Croton Cascarilla*, and it was regarded for many years as the source of our Cascarilla bark.

509.—xx.

In 1787, Dr. Wright declared that “Linneus’s *Croton Cascarilla* is the *wild rosemary shrub* of Jamaica, the bark of which has none of the sensible qualities of Cascarilla.” It appears, however, that the wild rosemary shrub of Jamaica is the *Croton lineare* of Jacquin, and that botanists are not quite decided whether we ought to regard it as a variety merely of, or a distinct species from, the *C. Cascarilla* of Linneus. Willdenow considered it to be a variety,—Sprengel a distinct species,—Don says it is identical with Linneus’s plant. It is remarkable, however, that the specimen in the Linnean Herbarium is, according to Mr. Don, *C. lineare*; and we are, therefore, yet in want of a good botanical description of the plant alluded to by Catesby.

Dr. Wright stated that the bark of *Croton Eleutheria* “is the same as the cascarilla and eleutheria of the shops. Medical writers have supposed these to be distinct barks, and they are sold in the shops as different productions; but when strictly examined, they prove to be one and the same bark.” In consequence of this remark, pharmacologists were induced to refer cascarilla bark to *Croton Eleutheria* (*C. Eluteria, Swartz*). Two facts, however, throw great doubt over the correctness of Dr. Wright’s supposition: firstly, it is very improbable that cascarilla and eleutheria barks should be described and sold as distinct substances if they were identical; that they might be, and probably were, nearly allied, is not at all unlikely, but their identity is improbable: secondly, if cascarilla bark be the produce of *C. Eleutheria*, how is it that none of this bark is imported from Jamaica, where, Dr. Wright says, the tree is very common?

More recently cascarilla bark has been referred to *Croton Pseudo-China* of Schiede and Deppe, the *Croton Cascarilla* of Mr. Don; and the London College of Physicians has adopted this notion in the new

edition of the Pharmacopœia. It appears that the bark of this species is (or I should rather say *was*) extensively collected in the vicinity of Jalapa, at Actopan, and in the district of Plaudel Rio, in the province of Vera Cruz, Mexico, where it is known by the names of *Copalche*, or *Quina blanca*. Mr. Don having compared some of this bark with cascarilla from Apothecaries' Hall, fancied the two barks to be identical; and he, therefore, proposed to change the name given to this species by Schiede and Deppe (*C. Pseudo-China*) to *C. Cascarilla*, while the plant thus designated by Linneus is to have the name of Jacquin's species (*C. lineare*).

That Mr. Don, and the College by following him, have committed an error, cannot be for a moment doubted; for the bark he examined is not identical with the cascarilla bark of commerce, though it possesses a very analogous flavour, neither is our cascarilla bark brought from the district in which the *C. Pseudo-China* grows. The history of this bark, as far as I can collect it, appears to be this. In 1817, a quantity of it was carried to Hamburgh as *Cascarilla de Trinidad de Cuba*. In 1827 no less than 30,000 lbs. of the same bark were sent from Liverpool to Hamburgh as genuine cinchona, but it was soon recognized to be a bark nearly allied to cascarilla, and by those on board the vessels coming from Para was declared to be *Quina dit Copalchi*. Subsequently the minister Von Altenstein procured some of it from Mexico, under the name of *Copalche*; and in 1829 the plant yielding it was declared by Dr. Schiede to be a species of *Croton*, which he called *Pseudo-China*. *Copalche* bark in its form, size of the quills, and general appearance, very much resembles what our druggists call Ash Cinchona bark, but its cascarilla-like flavour instantly distinguishes it. We do not observe on it any transverse cracks noticed on genuine cascarilla. A very full description of it, with a figure, will be found in Goebel and Kunze's "*Pharmaceutische Waarenkunde*." Martius, Geiger, and Guibourt, as well as several other pharmacologists, have also described it.

It appears, then, from the preceding account, that the species of *Croton* which yields cascarilla is, as yet, imperfectly known. I cannot help thinking, however, that it is the one figured by Catesby, and which Linneus termed *Croton Cascarilla*. In this opinion I am glad to find myself supported by Dr. Wood. — (*United States' Dispensatory*.)

Properties.—Cascarilla bark is imported mostly from Nassau, in New Providence (one of the Bahama Islands). Of eleven imports which I have been enabled to

trace in the bills of entry since 1833, seven came from Nassau, two from Belise, and two from Lima.

As met with in the shops now, cascarilla is in the form of fragments, or quills of about one or two, more rarely three or four, inches long, the fragments being thin, and usually curved both longitudinally and transversely, the quills varying in size from that of a writing pen to the little finger. The bark is compact, hard, moderately heavy, and has a resinous fracture. Some of the pieces are partially or wholly covered with a whitish, rugous epidermis, cracked both longitudinally and transversely. The cortical layers are of a dull brown colour. The taste of this bark is warm, spicy, and bitter; its odour is peculiar, but agreeable. When burned it evolves a pleasant odour, on which account it is a constituent of fumigating pastiles.

Chemistry.—Cascarilla bark was analysed by Trommsdorf, who obtained from it the following substances:—

Volatile oil	1·6
Brown, balsamic, feebly bitter } resin	15·1
Gum, and a bitter matter, with a trace of chloride of po- tassium	18·7
Woody fibre	65·6
	<hr/> 101·0

The *volatile oil* of *Cascarilla* possesses the odour and taste of the bark. Its specific gravity is 0·938; its colour is variable, sometimes being greenish, at others yellow or blue. Nitric acid converts it into a yellow pleasant smelling resin.

Brandes has announced the discovery of a peculiar alkaline substance (*cascarillina*) in this bark, but I am unacquainted with its properties. The tincture of galls does not produce any precipitate with the infusion of *Cascarilla*,—a circumstance which renders the existence of any alkaloid in the bark very doubtful.

The salts of iron deepen the colour of the infusion of *Cascarilla*, but without giving any indication of the presence of either tannic or gallic acid.

Meissner detected in the ashes of *Cascarilla* the *oxide of copper*.

Physiological effects.—Cascarilla bark produces the combined effect of an aromatic and a moderately powerful tonic, but without any astringency: hence some pharmacologists place it with aromatics, others with tonics. Cullen, though at one time uncertain as to which of these classes it ought to be arranged with, ultimately decided for the tonics. Kraus states, that moderate doses give rise, in very susceptible, especially in sanguine, subjects, to

narcotic effects; but though I have frequently employed this bark, I have never observed a narcotic operation, and I am totally unacquainted with any observations of others which support Kraus's statement.

Uses.—Cascarilla has been employed as a substitute for cinchona; and although it is inferior to the latter in tonic and febrifuge qualities, its aroma frequently enables it to sit easily on the stomach, without causing either vomiting or purging, which, in irritable affections of the alimentary canal, cinchona is apt to produce. In this country it is principally employed in those forms of dyspepsia requiring an aromatic and tonic. In Germany, where it is a favorite remedy, it is used in many other cases; such as low nervous fevers, intermittents, the latter stages of diarrhoea and dysentery, chronic bronchial affections, to diminish excessive secretion of mucus, &c.

Administration.—We may give Cascarilla in powder, in doses of from ten grains to half a drachm. The *infusion* is a better form of exhibition, the dose being one or two fluid ounces. The *tincture* is generally employed as an adjunct to the infusion: it is given in one or two drachm doses.

Croton Tiglium.

History.—As the ancient Greeks and Arabians were acquainted with a considerable number of Indian drugs, it is not at all improbable that they knew croton seeds; but I am not aware of any positive facts which can be adduced in proof of the correctness of this supposition. The first distinct notice of these seeds which I have been able to trace, is that given by Acosta, in 1578. At this period they were called Molucca pine nuts (*Pini nuclei moluccani*). When Commeline wrote, they were known in the shops by the name of *Cataputia minor*, although they were sold by itinerants as *Grana Dilla* or *Grana Tilli*. They were much employed by medical men in the seventeenth century, and were known by various names, principally by that of *Grana Tiglia*. They, however, went out of use, probably in consequence of the violence and uncertainty of their operation; but in 1819 they (or rather the oil yielded by them) were re-introduced into practice by Dr. Conwell.

Botany.—According to Dr. Hamilton*, there are two trees in India, certainly distinct, yet both agreeing with the later accounts of *Croton Tiglium*. One of these he terms *Croton Jamalgot*,—the other *Croton Pavana*.

1. *Croton Jamalgot*.—This is the *Croton Tiglium* of Roxburgh and of the Hortus Kewensis. It is a native of the islands forming the Indian Archipelago, of Bengal, and of Malabar. It is a small (Hamilton says middling-sized) tree, of about fifteen or twenty feet high, with a smooth, ash-coloured bark. The leaves are alternate, petioled, ovate (oblong-ovate—Hamilton,) acuminate (sometimes cordate at the base,) slightly serrate, and smooth. By the aid of a magnifying glass small stellate hairs are discovered on both sides of the leaves, but especially on the lower surface: and at the base of the leaves we observe two flat round glands. The inflorescence is a terminal simple raceme. The male flowers consist of a five-parted calyx, a corolla of five, white, ciliated petals, and fifteen unconnected stamina. The females are apetalous. The fruit is a trilocular capsule (regma of Mirbel,) each cell being filled by the contained seed.

2. *Croton Pavana*.—This is the *Granum moluccanum* of Rumphius. It grows at the Moluccas and in the north-eastern part of Bengal. It is distinguished from the preceding species by having only ten stamina, and by the seeds being much smaller than the cells in which they are placed.

Officinal.—The officinal part of the plant is the seeds from which the oil is obtained.

1. CROTON SEEDS: *Semina Tiglii seu Crotonis*.—These are the *grana Tiglii*, or *purging nuts*, of some pharmacologists. In size and shape they are very similar to castor seeds. Viewed laterally their shape is oval, or oval-oblong; seen from either extremity, they have a rounded or imperfectly quadrangular form. Their length does not exceed six lines; their thickness is $2\frac{1}{2}$ to 3 lines; their breadth, 3 or 4 lines. Sometimes the surface of the seeds is yellowish, owing to the presence of an investing lamina (epidermis?). The testa is dark-brown, or blackish, and is marked with the ramifications of the raphé. The endocarp, or internal seed-coat, is thin, brittle, and of a light colour. It incloses a yellowish oily albumen, which envelops the embryo, whose cotyledons are foliaceous or membranous. The seeds are without odour; their taste is at first mild and oleaginous, afterwards acrid and burning. When heated they evolve an acrid vapour.

According to Dr. Nimmo, 100 parts of the seeds consist of

Shell, or seed coats.....	36
Kernel, or nucleus	64

100

An elaborate analysis of these seeds has been made by Brandes.

* Linn. Trans. vol. xiv.

Volatile oil	traces.
Fixed, with <i>crotonic acid</i> and an alkaloid (<i>crotonin</i>)	17·00
<i>Crotonates</i> and colouring matter	0·32
Brownish yellow resin, inso- luble in æther	1·00
Stearine and wax	0·65
Extractive, sugar, and malates of potash and lime	2·05
Starchy matter with phosphates of lime and magnesia	6·06
Gum, and gummoin	10·17
Albumen	1·01
Gluten	2·00
Seedcoats and woody fibre of the nucleus	39·00
Water	22·50

101·76

Of these constituents two of them require separate examination.

Crotonic acid.—This is a volatile, very acrid, fatty acid, which congeals at 23° F., and when heated a few degrees above 32° F. is converted into vapour, having a strong nauseous odour, and which irritates the eyes and nose. It has an acrid taste, and acts as a powerful local irritant. It is to this acid that the cathartic and poisonous qualities of croton oil are principally referrible. It unites with bases forming a class of salts called *crotonates*, which are inodorous. The *crotonate* of ammonia precipitates the salts of lead, copper, and silver, white; and the sulphate of iron, yellow. *Crotonate* of potash is crystalline, and dissolves, with difficulty, in alcohol. *Crotonate* of barytes is soluble in water; but *crotonate* of magnesia is very slightly soluble only in this liquid.

Crotonin.—The alkali which Brandes found in these seeds, and to which he gave the name of *Crotonin*, appears to be identical with the *Tiglin* of Adrien Jussieu. It is crystalline, has an alkaline reaction, is fusible, and combustible with flame, leaving a carbonaceous residuum. It is insoluble in water, dissolves very slightly only in cold, but easily in hot alcohol. If sulphuric or phosphoric acid be added to the spirituous solution, small prisms (sulphate or phosphate of crotonin?), decomposable by heat, are obtained by slow evaporation.

Croton seeds are powerful local irritants or acrids, causing inflammation in those living parts with which they are placed in contact. Thus Orfila found that three drachms being introduced into the stomach of a dog, and the œsophagus tied to prevent vomiting, caused death in three hours; and on examination of the body, the alimentary canal was found to be in a state of inflammation. In another experiment, a drachm caused death under the

same circumstances. A drachm also applied to the cellular tissue of the thigh, was equally fatal. A dose of from ten to thirty grains of the powder of the kernel given to the horse, causes in six or eight hours profuse watery stools, and is recommended by some veterinarians as a purgative. Lansberg has found that twenty of the seeds killed a horse by causing gastro-enteritis.

In the human subject, a grain of the croton seed will frequently produce full purgation. Mr. Marshall says that this quantity made into two pills, is about equal in power to half a drachm of jalap, or to six grains of calomel. The operation, he adds, is attended with much rumbling of the bowels; the stools are invariably watery and copious. Dr. White recommends the seeds to be torrefied, and deprived of their seed-coats, before employing them. Dr. Wallich informed me that the labourers in the Calcutta Botanic Garden were in the habit of taking one of these seeds as a purgative, but that on one occasion this dose proved fatal.

The seed-coats, the embryo, and the albumen, have each in their turn been declared to be the seat of the acrid principle: I believe the remarks already made with respect to the seat of the acidity of castor-oil seeds, apply equally well to croton seeds.

It would be interesting to know whether the seeds of *Croton Pavana* are equally active with those of *Croton Jamalgota*, and also whether the seeds of both species are found in commerce.

2. CROTON OIL: *Oleum Tiglii seu Crotonis*.—This is the expressed oil of the seeds. What is employed in this country is imported from the East Indies (principally from Madras, though some is also procured from Bombay); and I am not acquainted with the precise process followed in obtaining it. The French *pharmaciens*, however, express it themselves, but its quality is inferior to the East Indian, and its colour darker. Here are the directions given by Guibourt for procuring it:—"Deprive the kernels of their shells or seed-coats, and reject those which are entirely dried or spoiled. Grind them in a mill similar to a coffee-mill. Mix the powder in a closed vessel placed on a salt-water bath, with half its weight of highly rectified alcohol, and immediately express between two tin plates heated in boiling water. Draw off the greater part of the spirit by distillation, and the remainder by evaporation on the salt-water bath. Filter through paper." From 1 pound of the seeds of commerce, Guibourt says we may obtain 3 ounces $\frac{1}{2}$ drachm of oil. By digesting the seeds in æther, Dr. Nimmo says we may obtain from 100 parts of the seeds 60 parts of oil,

40 of which are soluble in alcohol, and purgative, while the remaining 20 are bland and inert.

Croton oil, as met with in English commerce, has a yellowish brown or amber colour, and an acrid taste. It is readily soluble in æther and oil of turpentine, but less easily so in alcohol. It consists, according to Dr. Nimmo, of—

An acrid matter	45
Bland fixed oil	55
<hr/>	
Croton oil.....	100

The *acrid matter* just mentioned is extracted from croton oil by alcohol. The alcoholic solution reddens litmus, and when dropped into water, renders this liquid cloudy. Dr. Nimmo supposed this acrid matter to be of a resinous nature, but the investigations of Pelletier and Caventou, and of Brandes, show that it must be a mixture of *crotonic acid* and *crotonin*.

Physiological effects of Croton oil: (a.) On animals generally.—On vertebrated animals (horses, dogs, rabbits, and birds), it acts as a powerful local irritant or acrid. When taken internally, in moderate doses, it operates as a drastic purgative; in large doses, as an acrid poison, causing gastro-enteritis. Moiroud says that from twenty to thirty drops of the oil are, for the horse, equal to two drops for man; and that twelve drops injected into the veins cause alvine evacuations in a few minutes. Thirty drops, administered in the same manner, have caused, according to this veterinarian, violent intestinal inflammation, and speedy death. A much less quantity (three or four drops) has, according to Hertwich, terminated fatally when thrown into the veins. After death caused by croton oil, the large intestines have been found more inflamed than the small ones, both in horses and dogs. Flies, which had eaten some sugar moistened with the oil of croton, died in three or four hours,—the wings being paralysed or immoveable before death.

(b.) On man.—*Rubbed on the skin* it causes rubefaction, and a pustular or vesicular eruption, with sometimes an erysipelatous swelling of the surrounding parts. When rubbed into the abdomen it frequently, but not invariably, also purges. Rayer mentions a case in which thirty-two drops rubbed in upon the abdomen caused purging, large vesicles on the abdomen, swelling and redness of the face, with small, prominent, white, crowded vesicles on the cheeks, lips, chin, and nose. *Swallowed in small doses*, as of one or two drops, it usually causes an acrid burning taste in the mouth and throat, and acts as a dras-

tic purgative, giving rise to watery stools, and frequently increasing the urinary secretion. Its operation, however, I have found very uncertain. Sometimes six, eight, or even ten drops, may be given at a dose, without affecting the bowels. It is less disposed to vomit or gripe than some other cathartics of equal power.—*Large doses* may, of course, give rise to gastro-enteritis, and produce death; but I am not acquainted with any recorded cases of a fatal operation from its employment.—*Applied to the eye* it causes violent burning pain, and inflammation of the eye and face. Ebeling obtained relief by the application of a solution of carbonate of potash.

Uses.—The principal value of croton as a purgative is where the patient cannot or will not swallow, and in which it is desirable to evacuate the bowels. In these cases one or two drops may be placed on the tongue, and when thus administered the oil is usually as effective as when taken in the ordinary way. Tetanus and apoplexy may be mentioned as diseases in which this purgative may be useful, in consequence of the inability of the patient to swallow; while mania may be quoted as one in which patients frequently will not swallow. The minuteness of the dose required to act on the bowels, and the facility of its exhibition, have led to its use in the diseases of children requiring a powerful purgative; the objection to it is the uncertainty of its operation.

But croton oil is sometimes employed in other cases also: such, for example, as obstinate constipation, especially with an irritable condition of stomach, causing the rejection of other more voluminous cathartics. In dropsical cases, also, it is occasionally employed, though it is, as I believe, far inferior to elaterium. As the seeds have been found useful as an emmenagogue, the oil might also be tried as such. It is said to have proved efficacious in expelling tape-worm.

Rubbed in upon the skin it is sometimes employed to produce rubefaction and a pustular eruption, and thereby to relieve diseases of internal parts on the principle of counter-irritation before explained. Andral, I believe, was the first who used it in this way. Inflammation of the mucous membrane lining the air-passages, peripneumonia, rheumatism, gout, and neuralgia, are some of the diseases against which it has been applied in this way. It is sometimes used in the undiluted form, but more commonly with twice or thrice its volume of olive oil, oil of turpentine, alcohol, æther, or some other convenient vehicle. It appears to me to present no advantages over tartar emetic.

Administration.— Sometimes the oil is dropped on the tongue, as in tetanus, coma, and mania. When it can be administered in another form, I believe that of pill to be the best: we may use crumb of bread to give it consistence. Some have employed it in the form of emulsion, flavoured with some carminative oil, or balsamic substance: the objection to its use in this form is, the burning taste left behind in the mouth and throat. It has also been converted into a soap, which is said to be less acrimonious than, but equally cathartic to, the unadulterated oil; but the statement is highly improbable. In all these cases the dose of the oil (when good) is one or two drops. From ten to thirty or forty drops are sometimes rubbed upon the abdomen to excite purging, or to expel worms.

GUTTIFERÆ OR CLUSIACEÆ.

Several plants belonging to this family require to be noticed; some of them, however, in a very brief manner. And first I may refer to the—

Garcinia Mangostana,

A tree of about twenty feet high, growing in the Molucca Islands. Its leaves are opposite, ovate, and acute; the flowers terminal and solitary, with four red petals; the fruit is a succulent berry.



FIG. 205.—*Garcinia Mangostana*.

The berry, we are told, is the most delicious of East Indian fruits, and is "the only fruit which sick people are allowed to eat without scruple."

Hebradendron Gambogioides (Graham.)

This tree has long been known to botanists under the name of *Stalagmitis*

Cambogioides. Paul Hermanns first indicated it as the origin of the best kind of Ceylon gamboge, in 1677. Dr. Graham having received a specimen of it from Ceylon, found that it possessed characters amply sufficient to separate it from every genus of this order, and he has, therefore, given it the name of *Hebradendron Gambogioides*. Although there is no doubt of its being one of the plants which yield gamboge, Dr. Wight seems to be of opinion that it is not a native of Ceylon, and, therefore, cannot be the only plant furnishing Ceylon gamboge; and he thinks, therefore, that the statement of Messrs. Arnott and Wight, that the *Xanthochymus ovalifolia* is the only indigenous plant in Ceylon yielding gamboge, has not been invalidated by Dr. Graham.

Ceylon gamboge is quite unknown in English commerce. I do not think it necessary to enter into a detailed account of it, but must refer those interested in its qualities to an excellent paper "*On the Sources and Composition of Gamboge*," by Dr. Christison, in the twentieth number of Hooker's "*Companion to the Botanical Magazine*," in which will be found a full description of the physical properties and chemical composition of this variety of gamboge.

Siam Gamboge Plant.

History.—Gamboge was first mentioned by Clusius in 1605, who received it in 1603 from Peter Garet, of Amsterdam, where it had been lately brought from China by Admiral Van Neck and his companions.

Botany.—Hitherto the plant yielding Siam gamboge has not been ascertained; for no competent European botanist has seen either the tree, or specimens of it. That it is a guttiferous plant cannot be doubted; but the precise species, or even genus, is still uncertain. It is not impossible that it may be some plant which yields Ceylon gamboge (*Hebradendron Gambogioides*); but at present we are deficient of proofs of this notion, though several circumstances favour it.

Production of Gamboge.—The only account which we possess of the method of obtaining Siam gamboge, is that given to König by a Catholic priest residing at Cochin China. According to this account, when the leaves or branchlets are broken, a yellow milky juice issues *guttatim* (hence the origin of the term *Gummi Guttæ* applied to this substance), and is received either on the leaves of the tree, or in cocoa-nut shells, and from thence is transferred into large flat earthen vessels, where it is allowed to harden during the summer season, and is afterwards enveloped by

leaves. From another authority we learn that the cylindrical form of some of the pieces is owing to the juice being run into the tubular cavities of bamboo canes.

Properties and varieties.—Siam gamboge is brought to this country in boxes, cases, or chests; sometimes direct from Siam, at other times indirectly by way of Singapore, Bombay, Penang, or Canton. (See the official returns in the daily *Bills of Entry*, or the weekly *Trade List*, published at the Custom House).

It presents itself in three forms: 1st, in rolls or solid cylinders; 2dly, in pipes or hollow cylinders; 3dly, in cakes or amorphous masses. Both the solid and hollow cylinders are known in commerce as *pipe gamboge*. What is called *course gamboge* is made up of the commonest pieces of any of the foregoing kinds.

The cylinders (*pipes* of commerce) of gamboge vary in size from one to three inches diameter. Sometimes they seem to have been formed by simply rolling them, at other times they are striated, from the impression of the bamboo or other endogenous

stems in which the soft or liquid gamboge has been run, and I have samples in my collection with portions of the stems adherent. The cylinders are sometimes distinct, at others agglutinated, or even folded, so as to form masses of varying sizes and forms. Cylindrical or pipe gamboge occurs of all qualities, the finest and the worst specimens of gamboge having this form. Dr. Christison's remarks on this variety can, therefore, apply only to the finest samples.

Fine gamboge is brittle, and has a conchoidal fracture: its fractured surface is opaque, and brownish-yellow, with a glimmering lustre. Mixed with a sufficient quantity of water, it forms a yellow emulsion. Its powder is bright yellow. It has no odour, and very little taste at first, though it causes, after some time, a sensation of acidity in the throat.

Chemistry.—Gamboge has been analysed by Braconnot in 1808, by John in 1813, and by Dr. Christison in 1836. Here are the results obtained by the latter writer:—

Cylindrical or Pipe. Cake or Lump. Coarse.

	First.	Second.	First.	Second.	First.	Second.
Resin	74.2	71.6	64.3	65.0	61.4	35.0
Soluble gum (<i>Arabin</i>)	21.8	21.0	20.7	19.7	17.2	14.2
Woody fibre	trace	trace	4.4	6.2	7.8	19.0
Fecula	—	—	6.2	5.0	7.8	22.0
Moisture	4.8	4.8	4.0	4.2	7.2	10.6
	100.8	100.4	99.6	100.1	101.4	100.8

1. *Resin of gamboge: Gambogin or gambogic acid.*—This resin is brittle, in thin layers, of a deep orange colour,—in thicker masses, of a cherry-red tint. When reduced to the state of fine powder, its colour is lively gamboge yellow. "Its colour is so intense," says Dr. Christison, "that it communicates an appreciable yellowness to ten thousand times its weight of spirit." In doses of five grains, it occasioned profuse watery discharges, without pain or other uneasiness. If the activity of gamboge depended solely on the resin, 5 or 5½ grains of the resin should be equal to 7 of gamboge; but according to Dr. Christison this is not the case. Hence either it is not the sole active ingredient, or it becomes somewhat altered in the process for procuring it: the latter supposition is the more probable.

Gamboge resin is insoluble in water: the best solvent for it is sulphuric æther; but it is also soluble in alcohol. It dissolves in a solution of caustic potash,

forming a dark red liquid (*gambogiate of potash?*) which is precipitated yellow by acids and lime water, and some metallic salts, as those of lead,—brown, by proto-sulphate of iron,—and green, by the nitrate of copper. The precipitates with the metallic salts are to be regarded as *gambogiates* of the respective metals, as they consist of the resin and the oxide of the metal. Judging from the statement of Unverdorben, as to the composition of the *gambogiates* of lead and copper, the atomic or combining proportion of this acid is probably about 65.

2. *Soluble gum, or Arabin.*—The gum of gamboge is analogous, in its chemical characters, to that forming the principal mass of gum-Arabic.

3. The *fecula* found in the common kinds of gamboge is, doubtless, an adulteration. It is made blue by iodine, like ordinary starch.

CLINICAL LECTURES,

DELIVERED AT

SIR PATRICK DUN'S HOSPITAL,

During the Session 1836-7.

BY PROFESSOR GRAVES.

Influenza continued—History of the Symptoms—Stethoscopic phenomena—Post-mortem appearances—Extent to which the Nervous System is implicated—Character of the Sputa—Appearances of the Urine—Cerebral affections—Bleeding only to be employed at the onset—Opiates in conjunction with Antimony or Nitre—Blisters generally inefficient—Warm Fomentations beneficial.

IN my last lecture I alluded to the affection of the intestinal canal in influenza, and stated that in many cases there is derangement of the digestive tube, as manifested by thirst, anorexia, nausea, or even vomiting, and a tendency to diarrhoea. When diarrhoea occurs, it is generally at the commencement of the disease; and it is remarkable that this state is frequently exchanged, rather suddenly, for one of an opposite character. Thus, when you have succeeded in checking the diarrhoea, with chalk mixture and opium, a state of costiveness will frequently ensue, requiring the daily use of purgatives and enemata. I have now witnessed several cases in which the moderate use of opiates and astringents brought on constipation, requiring the use of strong purgatives and enemata, thrown up with Read's syringe.

In influenza, as in many other febrile affections, the lungs become considerably engaged; the disease first attacks the nose and throat, then the larynx and trachea, and, finally, the ultimate ramifications of the bronchi. There are several other affections which commence in a similar way, as ordinary catarrh, bronchitis, and measles. In influenza most persons have the nose and throat affected in the beginning; the inflammation creeps gradually along the lining membrane of the air-passages, until it involves the greater part, or the whole, of the bronchial mucous membrane. The progress of the inflammation is extremely rapid, and in the course of twenty-four, or even twelve hours, the lungs become engaged. There is, however, much difference as to the extent to which this inflammation proceeds. In many cases it is limited to the nose and throat; the patients complain of coryza, hoarseness, and slight cough; in others the trachea also is more or less affected, and the cough is more troublesome; but, generally speaking, the latter, as well as the former cases, are unattended with fever. The patients eat and drink as usual, go about their ordinary business,

and sleep tolerably well at night. This appears to be the general course of the disease when the inflammation is limited to the nose, throat, and upper part of the air-passages. When it spreads farther, and attacks the first ramifications of the bronchi, there is some dyspnoea and tightness of chest, the cough is much more troublesome, and the appetite and digestion are somewhat impaired; but persons in this state, although resting badly, and eating but little, will continue to go about; constantly, however, complaining that they are very ill. When the smaller divisions and ultimate ramifications of the bronchi are engaged, there is soreness of chest, remarkable dyspnoea, and constant harassing cough; the headache is also aggravated, the patient loses all inclination for food, sleeps badly at night, and is confined to the bed or house. First, then, you have the mucous membrane of the eyes, nose, and throat, affected, then the larynx and trachea, then the larger bronchi, and finally the smaller and more minute ramifications. When the latter state has continued for some time, more or less serous engorgement of the lung takes place, and this adds to the dyspnoea and cough. On applying the stethoscope over various parts of the lung, you will hear at various parts a moist crepitus, indicating the existence of serous infiltration. The smaller bronchial tubes and air-vesicles are congested and filled with mucus; the blood cannot pass freely through the lung, and consequently must be imperfectly aerated; the secreting and absorbing functions of the lung are deranged, and hence arises a state in which the pulmonary capillaries become congested, and permit the more fluid part of the blood to exude into the parenchyma of the lung, giving rise to what is termed serous infiltration. Something similar to this occurs also in general bronchitis, particularly in fever, but we very seldom have hepatization resulting from such causes. In hepatization, the capillaries pour out, not serum, but lymph, which glues together the cells of the pulmonary tissue, and forms a dense solid mass. Hence, in influenza or bronchitis, you seldom have true pneumonic inflammation. You will have extensive and dangerous engorgement, but when you examine the lung after death, you do not find any real solidification, and you can restore the lung almost to its original permeability and buoyancy by squeezing out the infiltrated fluid. Yet I must admit that this is not always the case, and that in influenza, as well as in bronchitis, you may have true pneumonia superadded to the original affection of the lining membrane. This occurred in the case of a lady whom I attended in Capel Street,

and who was attacked with influenza shortly before delivery. On the day of her accouchement, pneumonia was superadded to the bronchial inflammation, and she died with extensive hepatization of the right lung. This also occurred in the case of a man of middle age, residing in Suffolk Street, who had been labouring for some days under excessive engorgement of the lung. I have also observed the same occurrence in a gentleman whom I attended with Mr. Colles, in Exchequer Street, and in another case which I saw in Whitefriar Street.

One of the most singular features in the history of the present influenza, is the extraordinary degree of dyspnœa witnessed in most cases where the lung is extensively engaged, but particularly where the patients had been previously subject to pulmonary affections; and even in many cases where the bronchial mucous membrane is but slightly engaged, the amount of dyspnœa is remarkably great. Indeed it might be said with much truth, that the dyspnœa was by no means proportioned to the extent of pulmonary inflammation. There is at present in the hospital a woman labouring under influenza, whose chest sounds clear on percussion, and in whom every part of the lung is permeable, who presents nothing more than a few sonorous râles in the course of the larger bronchial tubes, and yet she is suffering from considerable dyspnœa, and the respirations amount to forty-six in a minute. We cannot, therefore, attribute the difficulty of breathing to mere bronchitic lesion, for it is not in proportion to this lesion. Another patient admitted into Sir P. Dun's Hospital exhibited a similar train of symptoms. He was a negro sailor, a native of New Brunswick, and was seized with the epidemic a few days after his ship arrived in Dublin; he was a man of Herculean form and finely developed chest, and in the prime of life. His suffering from dyspnœa was intense; his chest heaved, he tossed about in bed in a constant state of agitation and restlessness, and yet the respiratory murmur was every where distinctly audible through the lung, and no râle could be heard, except here and there a few bronchitic wheezings. He also laboured under insomnia, and though he had but little fever, his debility was extreme. Indeed his pulse was so weak from the commencement, that I could not venture to treat him antiphlogistically, and I accordingly ordered extensive vesication over the chest, with the use of wine, stimulants, and narcotics. This man subsequently recovered, an event which could scarcely have occurred under the plan of treatment adopted, had his dyspnœa depended on mere bronchitis. It should

be also borne in mind, that in many bad cases of influenza the dyspnœa is intermittent, or at least undergoes remarkable exacerbations and remissions at certain hours of the day and night. It would appear that the respiratory derangement depends on the same general cause which produces the whole train of symptoms, and that it might exist even where there was no bronchial inflammation at all. It is true that where the bronchitis is present, it adds to the distress of respiration, but the dyspnœa appears to be chiefly attributable to some impression made on the vital activity of the lung. That the lungs are endowed with an inherent vitality necessary to the aeration of the blood has been long acknowledged by the Germans, who have described a dyspnœa from paralysis of the lungs, and this opinion is now generally adopted in Great Britain, since the results of the experiments on the eighth pair of nerves have been duly appreciated. We have abundant illustrations of this truth in asthma, in which the greatest dyspnœa is often present, without any appreciable lesion of the lung. And it would be a fortunate circumstance for the patients in influenza if this were not the case, for we could then treat the affection of the lung as ordinary bronchitis, and should expect to find it amenable to the ordinary remedies. You are aware that the mortality in cases of ordinary bronchitis is extremely small, if we except very young children and persons advanced in life. In adults, when met by prompt and appropriate treatment, it is in general a very manageable disease, and seldom proves fatal unless combined with other unfavourable conditions. This, however, is not the case in influenza, nor is the pulmonary affection so easily treated, or the dyspnœa so readily controlled. I saw, some time ago, a fine young woman, servant to a gentleman in Fitzwilliam Street, for whom every thing had been done which the best and most skilful practice could devise, but her condition, when I saw her, was desperate, and she died the following day. Yet her chest sounded well on percussion, and we could hear nothing over the whole lung except a few sonorous and sibilous râles, and the respiratory murmur seemed every where nearly as loud as natural. Of course such a lesion of the nervous influence could not last long without necessarily inducing pulmonary congestion,—an inevitable consequence of imperfect aeration of the blood. When the eighth pair of nerves is divided, the animal is slowly suffocated; and on dissection the lungs are found engorged, and the bronchial mucous membrane congested and inflamed. May not the affection of these parts in influenza be

sometimes induced by lesions of nervous power in the lungs? I am indebted to my friend, Dr. George Green, for the following results of his very numerous post-mortem examinations in this disease, and I feel great pleasure in being able to give them, as such examinations, at least in this country, are very rare. Dr. Green observes—

“The cases which proved fatal at the House of Industry, during the late epidemic influenza, occurred principally among the aged inmates of both sexes. I had an opportunity of examining several of these cases, and the following were the principal post-mortem appearances observed:—

The bronchial mucous membrane was found in every case more or less congested and inflamed. The colour varied considerably, being in some of a dull red, and in others of a much darker hue. The inflammation in most cases was found to occupy both the trachea and the bronchial tubes of both lungs; in other instances it was confined to one lung alone. A sanguinolent frothy mucus occupied the area of the tubes, and increased in quantity as they were traced to their minuter divisions. The parenchymatous tissue of the lung was invariably discoloured, being generally of a dark or violet colour; its specific gravity was increased, and it did not crepitate, or at least very feebly, when pressed between the fingers. The surface of its section was not rough to the touch, and when pressed in the hand, a quantity of the mucus described above was driven out. In some cases the postero-inferior portions of one or both lungs were very dark coloured, and the finger could be passed easily through its substance. When the surface thus torn was examined, it did not appear to be granular; it resembled more a portion of gangrenous lung, except that there was an absence of fœtor. This last appearance was found principally in very aged persons. It was rare to find any traces of the second and third stages of ordinary pneumonia in these patients; but in the young and robust who were received into the Hardwick Fever Hospital from the neighbouring streets, these degenerations of the structure of the lung were observed, together with the same inflammation of the bronchial mucous membrane.

In most of the aged patients the blood was found dark coloured and fluid in both cavities of the heart, and in every vessel where it was examined. The cases in which fibrinous concretions in the cavities of the heart were found, were very few, and these invariably in the young or middle-aged. In the former class of patients also the lung occasionally appeared to be

œdematous; and in one or two cases a considerable effusion of serum had taken place into the pleural cavities. The signs of recent pleuritis were very rare, but old adhesions, as might be expected in such subjects, were very commonly found between the pulmonary and costal pleuræ. In one case of a lunatic, who survived the immediate attack of influenza, tubercles appeared to have been rapidly developed in both lungs. In another lunatic, two tubercular cavities were found in addition to the state of the lung and air-tubes already adverted to.

With respect to the nature and duration of the symptoms of those cases which came under my own management, I have little to say in addition to what is already so familiarly known. The physical signs afforded by percussion and auscultation were almost universally as follows:—Dullness, more or less decidedly marked, in the postero-inferior portions of the lungs; sonorous, or some form of the bronchial râles throughout the chest, or what was more common, a mixed sonorous and crepitating râle, or in the latter stages, a muco-crepitating râle. The sputa were seldom rusty-coloured or tenacious, but rather resembled those of bronchitis. In many cases the want of power to excrete them appeared to be the immediate cause of death; but in others, the morbid cause, whatever it might be, appeared to have affected the entire respiratory and circulating systems, producing great congestion of the venous system, and a state not unlike asphyxia. The latter cases were almost all among the aged inmates of the House of Industry.

The appearances of the other viscera were not such as could in any way account for the result, so often speedily fatal; so that, so far as one could hazard a conjecture, the morbid cause appeared to have made its primary impression on the respiratory mucous surface, thereby interfering with the proper aeration of the blood, and inducing the changes in that fluid and in the structure of the lungs above detailed.”

Such are the appearances observed by Doctor Green in his numerous dissections of persons who died of influenza. They may be relied on as perfectly accurate, for no one is better acquainted with pathological phenomena than Dr. Green, and consequently no one better able to furnish valuable evidence with respect to the appreciable changes produced by influenza in the pulmonary and other tissues.

I have already advanced the opinion, that we should not hastily assume that influenza consists essentially in the morbid changes which dissection reveals;—we should examine every side of the question,

and consider whether it is not possible that the alterations in the pulmonary tissue may not be, to some extent at least, the consequences of the disease. Let us consider for a moment the method we pursue in reasoning about the progress and causes of the symptoms in ordinary bronchitis. Here a patient is seized with a pectoral affection, attended by cough, dyspnœa, and more or less fever. We find certain râles, and the expectoration is altered in quality and quantity. Further, observing a number of such cases, we remark that the danger is proportioned to the degree of dyspnœa, and the dyspnœa to the extent and nature of the râles, together with the quantity and quality of the expectoration. To these the general constitutional affection and the probable results of the disease have certain definite relations, a knowledge of which is soon obtained by experience. But these râles, and this state of the respiration and expectoration, we have reason to believe, arise from the presence of bronchial inflammation; and to this we refer all the symptoms observed. On this supposition, too, we proceed in our treatment, and the result most commonly justifies its correctness; and we have additional evidence of its truth furnished by post-mortem examinations. Now in such instances the chain of inductive evidence is complete, and we feel a conviction that our practice is founded on correct notions of the nature of the disease. But how different is the case when we assume that influenza is caused by bronchial inflammation! In influenza, the dyspnœa is not always proportioned to the bronchitic affection,—nay, in some cases we have seen that difficulty of breathing was most urgent in cases where the air entered into all parts of the lung with facility, and where few and unimportant râles existed. Again, although the presence of a copious viscid secretion in the bronchial tubes was sure to aggravate dyspnœa, yet it often occurred in patients whose air-passages were very little or not at all obstructed in this way. The effects, too, of remedies, anti-phlogistic, expectorant, and derivative, were very different from what they would have been had the disease depended on a mere bronchitis. I have already stated my conviction, that the poison which produced influenza acted on the nervous system in general, and on the pulmonary nerves in particular, in such a way as to produce symptoms of bronchial irritation and dyspnœa, to which bronchial congestion and inflammation were often super-added.

In this view of the subject I am not singular, for I find that it has been advo-

cated by Dr. Peyton Blakiston, in a short treatise on Influenza, as it occurred at Birmingham. He states that his researches have led him to the conclusion, "that influenza is an affection of the nervous system, with its concomitant derangements in the organs of digestion, circulation, &c. commonly known under the name of nervous fever, accompanied throughout its whole course by irritation of the pulmonary mucous membrane, which not unfrequently amounts to congestion, and even to inflammation."

This distinction between influenza and feverish cold with bronchitis, is, in a practical point of view, of great importance, and should never be lost sight of in the treatment of influenza, for it prevents us from placing our sole confidence in remedies adapted to mere bronchitic inflammation. Thus Dr. Blakiston asserts, and most physicians will agree with him in this point at least, that it was often necessary to have recourse to diffusible stimulants at the commencement, and to administer tonic medicines in an early stage of the disease.

In some cases, even where great dyspnœa exists, the cough is hard and dry, and the expectoration scanty; in others the expectoration is copious, so as to cause constant efforts to cough it up; and, indeed, it is melancholy to look at the distress which patients suffer in this respect. You will hear the wheezing of the phlegm in the throat and air-passages before you enter the room, and you will see the patient exhausted by successive paroxysms of cough, and ineffectual attempts to expectorate. In other cases, where the vitality of the lung is less injured, and the general tone of the system less deranged, the sputa, although copious, are expectorated with considerable facility. The sputa bear considerable analogy to those observed in ordinary bronchitis; they consist at first of a greyish mucus, which, as the disease proceeds, exhibits a globular appearance, or assumes a puriform character, and does not coalesce; in other cases they are extremely viscid and ropy, like solutions of gum or isinglass. A remarkable fact with respect to the sputa in influenza is, that they are very seldom mixed with air-bubbles. On mentioning this to-day to some persons attending my class, I was shewn some sputa discharged by a patient labouring under influenza, in which there were some air-bubbles; this, however, is extremely rare. In a lecture which was delivered here some time ago, I took occasion to allude to the secretions of the bronchial mucous membrane, and stated my conviction that this subject had not received as yet the

attention which its acknowledged importance demands. There is one point, in particular, of which no adequate explanation has been as yet given, namely, why it is that in some cases of pulmonary inflammation the sputa are filled with air-bubbles, while in other instances there is no appearance of air-bubbles from the beginning to the end of the disease. The presence of air bubbles in the sputa has been explained, by supposing that air becomes incorporated with the mucus while it is driven up and down in the bronchial tubes during the acts of respiration and coughing; just as if you shake a solution of soap or any other viscid fluid in a half-empty bottle, it becomes impregnated with air-bubbles. There may be some truth in this, but I think it does not sufficiently explain the presence and intimate incorporation of air with the sputa in certain affections of the lung; and it appears to me that we can scarcely understand this, unless we suppose that the air and mucus are secreted together. You are aware that air is secreted by the bronchial mucous membrane, and that in some cases this secretion is morbidly increased, in others morbidly diminished. Now it is not very unreasonable to suppose, that the mucous membrane may secrete air and mucus together in abnormal quantity, and that this, rather than any mechanical agitation, may be the cause of the intimate combination of air with the expectorated fluids.

I need scarcely make any observation on the cough in influenza. It is in general very troublesome, particularly at night. Many persons are not much annoyed by it during the day, but at night it becomes very harassing, and prevents them from sleeping. When severe, it continues both night and day; and even when persons have recovered from the fever and dyspnoea, and are able to go about, the cough will continue extremely troublesome: this I have observed in the majority of cases. In this state medicines prove of very little service, and one of the best remedies is to change to a mild country air. Cases of cough, in which I had tried every remedy without success, and which had resisted every form of treatment in the city, yielded in a few days to the salubrious influence of change of air.

In influenza the urine is generally much loaded with lithates and super-lithates, and contains a large quantity of erythric or purpuric acid. It is red when voided, deposits a good deal of sediment, and tinges the vessel in which it lies with a pink film. It bears some resemblance to the urine which accompanies arthritic and gouty affections. In very bad cases, this

state of the urine continues up to the period of death. You recollect what I stated with regard to the condition of the blood; it is generally buffed, even where there is scarcely any febrile excitement in the system, and thus affords a very fallacious indication. The same observation holds good with respect to the state of the urine, and the temperature of the skin. I may observe here, that the heat of skin is very variable; it is sometimes very high, sometimes natural; in fact, like the pulse, it falls and rises in a very remarkably manner, at certain times in the day.

I have already spoken of the affection of the mucous membrane of the bowels. I may observe, that in some cases of influenza the morbid influence is translated to the brain, and symptoms of delirium or coma supervene. Thus in two instances communicated to me by the Surgeon-General, the patients fell into a state resembling coma, during the course of the disease. In three cases witnessed by Mr. Swift, the attack of influenza terminated in a train of symptoms bearing a close analogy to delirium tremens, and requiring the use of blisters to the head and nucha, full doses of opium, purgative enemata, wine, and the occasional use of mercurials. The patients complained of great headache, noise in the ears, some intolerance of light, and more or less sleeplessness from the commencement, along with the usual pulmonary symptoms. After five or six days they became excessively nervous, lost all sleep, had continued subsultus and tremors, and talked very incoherently, particularly at night. During the prevalence of the cerebral symptoms the pulmonary affection partially or wholly disappeared, but returned again in some degree after the subsidence of the delirium. All these cases terminated favourably.

I believe I have already remarked, that many persons who have laboured under very severe pulmonary symptoms, will struggle through the disease; and I may mention here, that I have seen persons recover, who have suffered from continued orthopnoea for three weeks. Still the mortality, particularly among the aged, is very great; and I fear that we shall shortly have but few octogenarians to tell the occurrences of the last century. Indeed, the mortality has not been confined exclusively to the aged, for many persons in the vigour of life have sunk under the attack. There have been several deaths among the soldiers in our garrisons, notwithstanding the excellent state of health which our troops generally enjoy, and the skilful and judicious treatment of our present army surgeons. The results of the medical treatment and necroscopic observations in

the different regiments in London, Dublin, and Edinburgh, will form a most valuable document, and I hope it will be made public for the benefit of the whole profession.

It now remains for me to say a few words concerning treatment. First, as to bleeding. A great deal was expected from general bleeding, because the disease was sudden and violent in its onset, and accompanied by symptoms which seemed to require active measures, such as an inflammatory state of the bronchial mucous membrane, accompanied by quick pulse, hot skin, and high-coloured urine. This led persons to expect much benefit from venesection. The results, however, of its employment are, generally speaking, unsatisfactory. Where venesection was employed promptly and in the beginning of the disease, and where it seemed to be strongly indicated by the buffed and cupped state of the blood, even in such cases it has failed to afford any thing like material or permanent benefit, or to produce a decided amelioration of the existing symptoms. The general impression among practitioners in Dublin at present seems to be, that bleeding is doubtful in its effects, if not altogether improper. I am much inclined to think that bleeding, unless employed within the first twelve or twenty-four hours, will be likely to do as much or more harm than good. Bleeding on the second or third day, except to relieve congestion of the lungs, seems inadmissible. The same observation holds good with reference to other diseases. Thus, in scarlatina, if you happen to be called in when the rigor commences, and while the disease is beginning to form, you will often accomplish much good by bleeding your patient; but after eighteen or twenty-four hours, when the disease is fully formed, venesection will not do. On this point I can speak from experience. In scarlatina, the difference of a few hours renders venesection inapplicable, and even injurious. It is the same thing with respect to influenza; general bleeding is useful only in the commencement; and where the symptoms seem to demand it, it should be employed at least within the first twenty-four hours. Where I have been fortunate enough to find the disease just commencing, I bleed to the amount of twelve or fourteen ounces, order the patient to remain in bed, and take some aperient, followed by the use of nitre. In this way, by timely bleeding, aperients, sudorifics, and confinement to bed, the attack generally passes over in two or three days. I could mention many instances of the success of this plan of treatment. In one family I treated all the individuals attacked in this way, and I have done the

same thing in many cases of persons somewhat advanced in life. In the case of an old gentleman, who was very severely attacked, I succeeded by these means in checking the disease at once. My experience therefore is, that bleeding is of service in the very commencement of the disease; but as it seldom happens that a physician is called in at this period, I would qualify my statement by saying, that, as a general measure, bleeding in influenza is seldom admissible. When you are called on to attend cases, you will most generally find that the patients have been ill for two or three days or more, and then the only mode of abstracting blood, which you can have recourse to with safety, is by leeching. About eight or ten leeches, applied over the hollow of the neck, just above the sternum, and allowed to bleed pretty freely, will prove very serviceable; and if you apply them in the evening, you will often secure to your patient a good night's rest. This plan of leeching the hollow of the neck, in cases of tracheo-bronchial inflammation, is an excellent one: the leeches are applied at a spot which lies close to the trachea, and particularly to that point to which the irritation accompanying bronchitic affections is chiefly referred.

By the aid of leeching, the use of aperients, if necessary, and confinement to bed, with sudorifics, you will frequently succeed in removing the fever and bronchial inflammation. You will derive much benefit, particularly in the early stage of influenza, from tartar emetic and nitre; but I must say, that neither leeching nor tartar emetic and nitre, prove as valuable and as efficacious, in influenza, as they do in ordinary bronchitis. Some of my friends, who used tartar emetic as a nauseant, in the commencement of the disease, inform me that they have derived benefit from its use; and others have told me that they have used tartar emetic and opium in the commencement and during the course of the disease, with advantage. I have not employed the first of these, but I have the latter, and with favourable results. You may, therefore, after using antiphlogistics for a day or two, proceed to the use of opiates, in combination with tartar emetic or nitre. In some cases, the camphorated tincture of opium will answer very well; in others you will find the acetate or muriate of morphia better. A mixture, composed of six ounces of almond emulsion, a drachm of nitre, and half a drachm or more of the liquor muriatis morphiæ, will be found very useful. The muriate of morphia, which possesses many of the valuable properties of opium without its defects, will serve to tranquillize the system and produce sleep, two most

important points in a disease like influenza connected with increased nervous irritability. A gentleman, on whom I place much reliance, tells me that he has treated many bad cases successfully with camphor mixture, tincture of opium, and tartar emetic. I need not mention the various remedies which have been recommended in this disease, as Mindererus' spirit, Hoffman's anodyne, ipecacuanha, alone or combined with extract of conium and blue pill, and many other remedies belonging to the class of diaphoretics or expectorants. They are all more or less serviceable, but they have all the common defect of producing less relief than they usually do in cases where the pulmonary affection is simple and idiopathic. Towards the end of the disease, you find it necessary to give stimulant expectorants and light tonics, as decoction of polygala senega, infusion of calumba, &c. &c.*

One word about blisters, before I conclude. They are useful in some cases, but in many of the severe ones they do little or no good, and only add to the patient's sufferings. They do not relieve the pulmonary symptoms, and particularly the dyspnoea, in the manner you would be prepared to expect. I do not know a more remarkable circumstance, in the present disease, than the failure of blisters; and in many cases I do not employ them at all. Fomenting the trachea and chest with very hot water appears to be much more serviceable. This has proved extremely valuable in many cases of this as well as other affections of the air-passages; and on referring to the late American journals, I find that the plan of treating croup in its onset, by means of very hot water, applied with a sponge to the throat, a plan which I recommended some time ago in the Dublin Medical Journal, has been extensively employed in America, and with the most happy results. Sponging the throat and chest with water as hot as it can be borne, has been found, in many instances, capable of arresting all the threatening symptoms of croup at once. Several cases are mentioned in the American journals, in which the lives of the little patients were evidently saved by this application. I may state also, that not long since a child was saved in Dublin by the same means. By the advice of Mr. Smyly, who suspected the threatened attack, the child's mother had every thing prepared, and by her promptitude and

care arrested the disease before it had sufficient time to form.

I have nothing more at present to add on the subject of influenza; we are still much in the dark as to the best mode of giving relief, and this is the more singular, as in general the disease allows full time for the trial and operation of medical agents.

CASE OF
HIDROSIS, OR HIDROTIC FEVER;
WITH REMARKS.

To the Editor of the Medical Gazette.

SIR,

I SHALL feel greatly obliged by your allowing the accompanying case of hidrotic fever, and remarks, to be published in the columns of your widely-circulated journal.

Your obedient servant,

JOHN C. W. LEVER.

33, Bridge-House Place, Southwark,
August 28, 1837.

Mrs. —, ætat 36, a highly sensitive and nervous lady, engaged me to attend her in her first confinement, which she expected would take place about the middle of May. On inquiry, I found that she had always been the subject of delicate health, that (to use her own expression) she was "exceedingly nervous," and was liable to frequent attacks of headache, which occasionally confined her to her bed, and to great weakness and irritability of the bowels, the least excitement of the mind occasioning diarrhoea. During the three last months of gestation she suffered from sickness, from a constant dull pain in her left side, in front, near the linea semilunaris, midway between the crest of the ilium and the extremities of the floating ribs, — from relaxation of the bowels, frequently having as many as four or five motions in the course of twenty-four hours, — and from almost perpetual watchfulness, so that night after night was passed without one wink of sleep; and although her body was weary, yet the moment she lay down her imagination was roving, and her memory recalling persons and bygone occurrences. For the last twelve or thirteen weeks of gestation, she assured me she had no more than one good night's rest out of

* Doctor Blakiston strongly recommends the ætherial tincture of lobelia, in large doses, repeated at short intervals, in influenza where bronchitis was present. As I had not the advantage of perusing his book during the prevalence of the epidemic (it was not published till May), I had no opportunity of trying this medicine in the way he suggests.

seven : the more wakeful she was, the more irritable her bowels seemed to be ; and in fact, at last she never took a meal without its being followed by an evacuation. Her pulse was also peculiar from its variability, always above 100, and sometimes as high as 150 ; this great change of frequency suddenly occurring within the compass of twelve or twenty-four hours, and this for days together. Her surface was generally bedewed with perspirations, even at those times when there was the greatest tendency to diarrhœa. After suffering from these symptoms for full two or three months, on Sunday, May 7th, at noon, she summoned my attendance. On my arrival, I found that the membranes had given way on the Friday previous, that there had been trifling pains throughout the whole of Saturday up to 10 A.M. Sunday, since which time they had recurred more frequently, and with greater vigour. On examination, the os uteri was found dilated to the size of a half-crown piece, the vertex presenting. Labour went on naturally until 5 P.M., when she was delivered of a living female child, after four or five hours of smart pain.

The circumstances worthy of note during this stage of the labour, were the rapid and still varying pulse, and the great diaphoresis. Immediately after the birth of the child, the hand placed over the abdomen detected the uterus moderately contracted ; a pretty considerable hæmorrhagy was flowing from the genitals, and although there had been several after-pains, yet the placenta was not thrown off. As the patient's pulse began to sink, and the hæmorrhage was still going on, an examination was made, and detected the placenta lying partly within and partly without the uterus. Attempt was made to deliver it by gentle traction, but without success. Further examination discovered that the impediment arose from an adhesion of a portion of it to the left side of the uterus (the side on which, as before observed, the abdominal pain had been felt during the last two or three months of gestation) : this was cautiously detached, and as the adhesion was not very firm, was easily accomplished. Examination of the secundines on a napkin after delivery proved them to be perfect. The uterus now contracted well ; the pulse was 120, and the patient seemed disposed to sleep.

After waiting an hour, I left her, with particular directions that she was not to be moved. At half-past 10 P.M. I found that, notwithstanding my directions, she had been placed in bed, and that some hæmorrhage had occurred. By applying pressure, the uterus again contracted well. She was ordered to have a bandage placed around the abdomen, with a compress over the uterus. Twenty minims of tinct. opii were immediately administered in peppermint water.

On the second day of delivery (May 8th) : she has passed a tolerably good night ; lochia abundant ; considerable diaphoresis ; less excitement ; her pulse is 130 ; she has not passed any water. A catheter introduced drew off 16 ounces of pale urine.

Vesperè.—There is considerable diaphoresis ; her pulse is 140 ; there is no abdominal tenderness ; she has passed her water naturally ; there is some mental excitement. She was ordered—

Tinct. Hyoscy. \mathfrak{mxxxv} . ; Pulv. Trag. C. gr. xv. ; Mist. Camp. \mathfrak{zj} . M. fiat haust. horâ somni sumend.

On the third day of delivery (May 9th) : she has slept well ; the diaphoresis is still great ; her pulse is 120 ; the mammæ are enlarging ; there is no abdominal tenderness, and the lochia are profuse ; there is not so much mental excitement ; the bowels have not been opened.

R. Ol. Ricini, \mathfrak{zss} . stat.

Vesperè.—The castor oil has acted once ; the pulse is 135 ; the diaphoresis considerable, and of a peculiar earthy smell ; the mental excitement increased.

Rep. Haust. c. Tr. Hyoscy. h. s.

On the fourth day of delivery (May 10th) : she has slept but little ; her pulse is 110 ; the diaphoresis is less, and the mental excitement diminished ; lochia moderate.

On the fifth day of delivery (May 11th) : at four o'clock in the morning, she was seized with smart general rigors, which lasted for some time, and were attended with violent palpitations of the heart, dyspnœa, &c. : these were followed by most profuse diaphoresis ; she complained of a dull sore pain in the left iliac region, behind the internal abdominal ring, which pain, although increased by pressure, was not materially so ; there was sub-tympanites ;

the lochia were said to be more abundant, but on examining the napkins, they appear as if stained with a sanguineo-purulent fluid (half blood, half pus), not offensive; there was a moderate secretion of milk (this was accurately observed); the countenance was *free from anxiety*, the eyes bright, the tongue clean and moist, the pulse 150, the bowels not opened, the urine plentiful, notwithstanding the diaphoresis. She was ordered—

Hirudines, viij. stat. applicand. part. dol. postea Catap. Lini.

R Hyd. Chloridi, gr. iij.; Opii, gr. ss. s. s.

R Ol. Ricini, ℥ss. hor. duab. post. Pulv. sumend.

R Liq. Ammon. Acet. ℥j.; Sp. Æth. Nit. 3j.; Tinct. Hyoscyami, 3jss.; Mist. Camph. 3v. M. ccij. 4tis horis incip. post. operat. Ol. Ricini.

(I may here remark, that her nurse yesterday got her out of bed, and placed her in a sitting posture, and there is every reason to believe had given her some damp articles of clothing.)

At 3 P.M. (still the fifth day of delivery), the leeches had bled freely; the pain is diminished; tympanites is still slight; the lochia are not so profuse; the diaphoresis is great; the pulse 136, and there is less mental excitement. The castor oil has produced two evacuations.

At 11 P.M.—She expressed herself as feeling much better; the diaphoresis still profuse, and of a strong earthy smell; her pulse was 148.

R Hyd. c. Cretâ, gr. iv. 6tis horis, et P.

On the sixth day of delivery (May 12th).—She had passed a better night, and was less excited, having changed her nurse; her pulse was 98, having fallen fifty beats in the minute; the diaphoresis was much the same, and the lochia were less in quantity, although of the same character.—Perg.

Vesp.—More excitement of mind, although moderated by a sort of forced calmness; her pulse was 130; the diaphoresis more profuse; the secretion of milk diminished; the urine copious and pale.—Perg.

On the seventh day of delivery (May 13th).—She expressed herself as feeling better; her manner is more natural than yesterday evening; her pulse is 96 (having fallen thirty-four beats in

twelve hours); her bowels are open, her tongue moist, and the lochia trifling.

Perg.

On the eighth day of delivery (May 14th).—The pulse was 104, and her other symptoms much the same as yesterday. At 2 o'clock in the afternoon there was a profuse discharge of blood, accompanied with several coagula, which caused considerable pain in their expulsion.

On the ninth day of delivery (May 15th).—At 4 A.M. she was again attacked with rigors, accompanied with palpitation of the heart and dyspnœa, which lasted about fifteen minutes, and were followed by a profuse diaphoresis, of a stronger smell (the only odour I can liken it to is that emitted upon entering an underground cellar). She lay in a state of great nervous excitement, stating she knew she was very dangerously ill, although, with a forced smile upon her countenance, she said she was not frightened about herself. There was considerable pain and tumidity above the pubes. A catheter introduced drew off about twenty ounces of very pale urine, although she had passed her water naturally about eight hours previously, and had profuse diaphoresis until the accession of the rigors. Her pulse was 150, her breathing hurried, her tongue clean, her bowels open, and the lochia profuse, still sanguineo-purulent. She was ordered—

Liq. Opii Sed. ℥xxxv.; Infus. Rosæ. C. 3x. M. f. haust. s. s., et rep. in 3tis horis inquietudine vel agitat. urgente.

At 4 P.M. (still the ninth day), she had another rigor, although of a slighter character; the diaphoresis was profuse; there was less mental excitement; she had passed her urine twice since the introduction of the catheter; the lochia were much the same; her pulse was 130, and she complained of her eyesight becoming dim, so that she could not see objects distinctly.

Perg. c. Hyd. c. Cretâ.

R Tinct. Hyoscyami, ℥xxv.; Infus. Rosæ. Comp. 3x. f. haust. 4tis horis sumend.

At 11 P.M. her pulse was 148; the mental excitement still great. Her other symptoms the same.—Perg.

On the tenth day of delivery (May 16th).—She had passed a restless night,

from the constant noise of the steam-carriages on the railway (it being Greenwich Fair time). The diaphoresis was profuse; the lochia diminished; still milk in the mammæ; her bowels have not been opened; and her pulse was 130.

R. Ol. Ricini, 3vj. stat., et rep. Pulv. et Mist.

Vesp.—There was more mental excitement; the diaphoresis was still profuse; the pulse was 160. The bowels have been opened twice from the oil; she complained of soreness in the left iliac region (the original seat), although there was no tenderness on pressure. Her urine free and pale.

On the eleventh day of delivery (May 17th).—The diaphoresis was very great; her pulse was 150; she had slept but little during the night, and then only at intervals; the lochia were purulent, and the tongue was clean.

R. Quinæ Disulph. gr. xij.; Acid. Sulph. Dil. ℥xx.; Tinct. Hyoseyami, 3jss.; Infus. Rosæ. C. 3vss. M. coch. ij. 4tis horis.

Rep. Pulv. 6tis horis.

Vesp.—She was much the same as in the morning; her pulse was 150.

On the twelfth day of delivery (May 18th).—She had passed a better night; her pulse was 106; there was less excitement; the diaphoresis was diminished; her bowels have been opened once; the lochia moderate; she has suckled her child once; her urine is free, and her tongue is clean.—*Perg.*

Vesp.—Her pulse was 120, and there was more excitement.

On the thirteenth day of delivery (May 19th).—She complained of pain in the head, which she says is similar to one of her nervous headaches; the diaphoresis is less; the lochia are small in quantity; the urine is free; her pulse is 96.

R. Lotio Evap. cap. applicet. et P.

On the fourteenth day of delivery (May 20th).—The bowels had been opened three times during the night; there is sub-tympanites; the tongue is clean; the diaphoresis is less; the pulse is 100; the milk is small in quantity; the lochia are slight.

Rep. Pulv. ad Pulv. Ipecac. C. gr. iij. in sing.

Rep. Mist. Quinæ, sine Acid. Sulph. Dil. 509.—xx.

Vesp.—The bowels have been opened twice; her pulse is 130.

On the fifteenth day of delivery (May 21st).—The bowels had been relaxed twice during the night; the diaphoresis was less; there was great pain in the head; the lochia were slight.

R. Quinæ Disulph. gr. xij.; Tinct. Card. C. 3ij.; Infus. Cuspariæ, 3vss. M. coch. ij. 4ta quaque horâ, et perg. c. Pulv. Contin. Lot.

Vesp.—There was more excitement; the pulse was 146; the diaphoresis was increased; the bowels had been opened twice since the morning.

Perg. c. Medic.

R. Mist. Cret. 3j.; Conf. Aromat. gr. x.; Vin. Opii, ℥v. M. f. haust. post sing. Liquid. Sed. sumend.

On the sixteenth day of delivery (May 22d).—She had passed a restless night; the bowels had been opened four times; the head was hot, and there was a degree of stupor, accompanied with slight delirium, deafness, and imperfection of vision. Slight subsultus of the arms and legs. She had taken only twenty minims of the vin. opii, in divided doses of five minims to each. Her tongue was clean (not morbidly so); her countenance wore an unnatural calmness; the secretion of milk was scanty, of urine, free; there was tympanites; the skin was clammy; the lochia trifling; the pulse was 154, and the breathing was hurried.

At 2 P.M. Dr. Blundell saw her, and found her in the same condition, her bowels, however, not having been acted on since 9 A.M. There was great excitement and restlessness. He ordered—

Pulv. Ipecac. C; gr. xv. M. f. pulv. perturbatione vel inquietudine urgente capiend.

R. Vin. Ipecac. ℥xxx.; Liq. Ammon. Acet. 3iij.; Dec. Aloes. C. 3vj.; Aq. Anethi, 3iv.; Aq. 3ij. in cap. coch. ij. ampla stat. et 4ta quaque horâ donec alvi 3 semel soluta fuerit.

R. Hyd. c. Cretâ, gr. iv. decimâ horâ nocte capiend.

Abradatur Capillitium et Lot. Evap. applicet.; Ung. Hyd. fort. 3ss. To be rubbed on the inside of the thighs.

Vesperè.—She had had two motions; the diaphoresis was profuse; the pulse 152; the excitement less; and the deaf-

ness in some degree diminished. She had taken the Dover powder.

Rep. Mist. omittē Decoct. Aloe C.

On the 17th day of delivery (May 20), she had had intervals of sleep during the night; her bowels have been opened three times; there was less subsultus tendinum; the tympanites rather increased; the tongue moist; the pulse was 143. There was milk in the left breast; the perspirations were more clammy.

Rx Haust. Cretæ, 3x.; Conf. Aromat. gr. xx.; Tinct. Catechu, 3j. M. fiat haust. stat. sumend et rep. si necesse.
R Pulv. Ipecac. C. gr. xv. rep. si necesse.

Vespere.—Her bowels have been opened three times since the morning, the motions of a lighter colour; there was great mental excitement, without delirium; the subsultus of the hands and legs was frequent; the deafness was diminished; the perspirations were clammy; the tympanites was much the same; and the tongue was moist. Dr. Blundell again saw her, and ordered her extremities to be frequently sponged with warm vinegar and water; a clyster-pipe to be passed into the rectum, to endeavour to diminish the tympanites.

Rep. Medic.

Rx Mist. Cretæ, ʒiij.; Conf. Aromat. ʒiij.; Tinct. Opii, ℥xv.; Aq. Anethi, ʒvj. M. ccij. post quamque sedem liquidam.

On the 18th day of delivery (May 24), she had passed a very restless night; from almost constant delirium her deafness had increased; her vision was much impaired; her pulse was 160, small, and very compressible; her body was covered with a clammy sweat; the subsultus of the arms and legs was almost constant; the tympanites had increased; the bowels had been opened six times during the night; no effect had been produced by the mercurial inunction, although it had been diligently followed up. Her tongue was clean (not red), and her voice was strong.

Rx Ammon. Sesquicarb. ʒj.; Inf. Serpent. Comp. ʒvj. ccij. ampla. 4tis. horis.

Rep. Mist. Cretæ, ut antea. Enema Amyli, c. Tinct. Opii, ℥xx. stat. injiciend.

Vesperè.—She was sinking fast; her bowels had been acted upon several times, the motions having a dirty rice-

water appearance; the pulse was imperceptible at the wrists, but to be felt at the brachial, although too rapid to be counted. Her extremities were cold and clammy; the abdomen and upper parts of the thighs covered with a profuse perspiration; delirium almost constant; and at half-past 11 P.M., she died.

Sectio cadaveris.—With the assistance of my friend, Mr. Joseph Ridge, I inspected the body twenty hours after death; there were no signs of putrescence; the weather being very cool.

Head.—The dura mater was more than usually adherent at the situation of the anterior fontanelle; the membranes of the brain were otherwise healthy, as also the brain itself, and in it the fibrous structure was particularly well marked: there was no effusion either on the surface of the brain, or in its ventricles.

Thorax.—The cavity was diminished from the liver and false ribs encroaching upon it (probably caused by tight lacing.)

Lungs (left).—Slight adhesions of the pleura to the apex of the thorax; at the apex of the left lung there was a spot of puckering of the size of a half-crown, at which spot there were three or four calcareous deposits of the size of kidney beans; the bronchi were filled with frothy mucus; the bronchial membrane pale. (Right).—Crepitant, slightly adherent, and puckered at the apex, at which spot also there were several deposits of calcareous matter of the size of hempseeds: there was a tendency to œdema towards the posterior part; the bronchi contained a small quantity of frothy mucus; the bronchial membrane was pale, and the bronchial glands calcareous.

Heart.—Two ounces of clear pale serum were contained in a free healthy pericardium; the heart was of ordinary size, although flabby; the right ventricle was empty, and particularly lax; the muscular fibre generally pale and flabby to the feel; the fibrillæ of the muscles not evident; the valves were healthy.

Abdomen.—The abdomen externally appeared enlarged from tympanites. On making an incision, a thick layer of fat was found covering the abdominal muscles. On first view, the small and large intestines were found distended with flatus, particularly the cœcum, which was forced towards the mesian line: the

peritoneal coat of the intestines generally was not shiny, but dull, and the secretion covering it clammy to the feel.

Stomach.—The stomach was nearly empty, and flabby; the mucous membrane free from injection, and easily separable from the other coats.

Liver.—The liver was pushed very low, and crossed over more than usually to the left side; it was flabby, pale, deficient in blood, and soft to the touch. On making a section, the peculiar organization was not demonstrable as in a normal viscus, and it presented generally the appearance of a fatty liver.

Spleen.—Soft, flabby, and containing remarkably little blood.

Pancreas.—Was healthy.

Kidneys.—Were flabby, pale, and peculiarly destitute of blood; there was fat in the pelvis.

Small intestines.—The small intestines were loaded with flatus; the contents of the ilium were of a gamboge colour, in small round moderately firm nodules, and had a strong smell; the contents of the jejunum were of a watery consistence, pale and sour to the smell. The glands of the lower part of the ilium, near the valve, were enlarged so as to give it a granular appearance; its coats were flabby and pale; the mucous membrane, which was carefully examined in a strong light, was entire throughout.

Large intestines.—The large intestines were distended with flatus, and the coats were flabby and pale.

Uterus.—The uterus, viewed in its natural situation, was pale and smooth, soft and flabby to the feel, and perfectly free from adhesions. It was very carefully removed from the body, and most *rigidly* examined in a strong light. On its posterior surface, about the centre of the body, a tubercle was found of the size and shape of a broad-bean, tough, and firm under the knife, uniform in its structure, which was pale, and similar to the hard tumor (the indolent scirrhus of Dr. Blundell). Upon cautiously exposing the internal surface, the whole of the lining membrane was found to be of a dark (peony) colour. On the right side, towards the fundus, there was a spot of the size of a half-crown piece, irregularly elevated to a thickness varying between that of a half-crown and crown, and of a dark brown colour. Within and around this

elevation the openings of the uterine veins could be seen; and on making pressure, *there was seen issuing from some of them a decided purulent fluid, from others pus mixed with blood.* Below this irregular elevation there were seen many points of ecchymosis (say twenty or thirty,) not altogether unlike *flea-bites*, although of a much darker colour; in some of these spots *ulceration* had taken place through the lining membrane into the proper tissue of the uterus; there were at least fourteen or fifteen of these ulcerated spots: that they were really ulcerations was demonstrated by the irregularity of their edges, from the great difference of appearance between them and the natural openings of the veins, and also from their passing only but a short way into the substance of the uterus. Around some of these ulcers *the proper tissue of the womb* appeared *softened*, easily breaking down under the probe. Upon a careful examination of the venous trunks, which were laid open both from the internal and external surface, they were found either to be obstructed with coagula or to contain a fluid more or less purulent. *Ovaries.*—In the left broad ligament, midway between the ovary and the uterus, there was a delicate thin cyst of the size of a small walnut, and containing a pale serous fluid. Both the ovaries were flabby, and on section presented a few solid vesicles.

Vessels.—Very great attention was paid to the examination of the abdominal and pelvic vessels. The abdominal aorta and its branches, particularly the renal, spermatic, common iliacs, internal iliacs, and their branches, the uterine, lateral sacral, ilio-lumbar, and umbilical, the gluteal-ischiatric and pudic, until they passed out of the pelvis, were most completely investigated: they were perfectly free from disease, but their lining membrane was pale; so also the vena cava ascendens, the vena cava descendens, and its branches. The renal, spermatic, iliac, and pelvic veins throughout, were most particularly examined; there was no thickening or purulent deposit, either within or without them; and the only deviation from their natural appearance was extreme pallor of the lining membrane.

Bladder.—The bladder was healthy, and contained about 3jss. of pale urine.

The foregoing case, in almost every

particular, exemplifies the disease, which was first described by Dr. Blundell, and called by him "hidrosis, or hidrotic fever." There are many points in the history of the case which are worthy of notice — and first, I may mention the state of body in which I found my patient: there was a sanguine temperament, an easily-excited nervous system, a vascular system more than usually irritable; at all times a tendency to diarrhœa, sometimes more, sometimes less; great watchfulness, copious perspirations, and last, though not the least, a constant pain and soreness in her left side. Any one of these circumstances ought to arouse the attention of the accoucheur, much more so then when they were all combined in the person of one individual, 36 years of age, and pregnant for the first time. I must confess that my fears were awakened, not so much for the labour itself, but taking into consideration the high sensibility of the nervous system, the most trifling occurrences producing a state of great excitement, her continued watchfulness, her rapid and varying pulse, and her frequent attacks of headache, I was led to anticipate the occurrence of puerperal mania.

The symptoms of the disease are well worthy remark; and the first I will refer to is the *shuddering* or *feeling of coldness*. The patient had three decided attacks of shuddering; one on the morning of the fifth day of delivery (May 11th,) and two on the ninth day (May 15th.) The two first lasted each about fifteen minutes, the last about ten minutes: they all occurred at four o'clock, and were accompanied with violent palpitations of the heart, and dyspnœa.

Sweats.—The profuse diaphoresis must also be noticed, as it mainly characterizes the disease. I have stated, that whenever I visited the patient previous to her confinement, her body was bedewed with perspirations; these, although considerable, called for no particular notice until the evening of the third day of delivery (May 9th), when my attention was arrested by their peculiar earthy smell. It was not, however, until after the first rigor, on the fifth day of delivery (May 11th) that they became profuse and gained the name of "sweats of distress." After the second and third rigors they became still more abundant:

they however diminished under the use of the disulphate of quinine, until the attack of diarrhœa, when they became more clammy. Their profuseness was surprising; but the more profuse they were the more they seemed to distress the patient.

Pulse.—The character and variability of the pulse is not the least remarkable symptom attending the disease. I have stated, that previous to delivery the patient's pulse was never below 100, and sometimes up to 150.

The following table will demonstrate its changes:—

Day of Delivery.	Date of Month.	Number of Pulse.	
		Morn.	Eve.
....	May 7....	—	120
2d.....	8....	130	140
3d.....	9....	120	135
4th.....	10....	110	—
5th.....	11....	150	136 3 P. M. 148 11 P. M.
6th.....	12....	98	130
7th.....	13 ...	96	104
8th.....	14....	104	—
9th.....	15 ...	150	130 4 P. M. 148 11 P. M.
10th.....	16....	130	160
11th....	17....	150	150
12th.....	18....	106	120
13th.....	19....	96	120
14th.....	20....	100	130
15th.....	21....	130	146
16th.....	22...	154	152
17th.....	23....	143	154
18th.....	24....	160	not to be counted.

From this table it will appear that, throughout the whole course of this patient's illness, her pulse never was below 90; that, generally speaking, it was more rapid in the evening than in the morning, and that it maintained its greatest regularity during the time she was taking the quinine, when the diaphoresis also was somewhat diminished, before the attack of diarrhœa. The pulse, until the collapse came on, was soft and round, notwithstanding its frequency.

Secretions: Milk.—Although the secretion of milk was diminished, yet it was not entirely suspended. On the third day of delivery (May 9th,) the report is, "the breasts are enlarging." On the fifth day of delivery (May 11th,) the morning when she was first attacked with shuddering, there was milk in both breasts, although moderate in quantity. On the ninth day of delivery (May 12th) the quantity had diminished: on the

tenth day of delivery (May 16th) it was present ; on the twelfth day she suckled her child once ; on the fourteenth day the milk was small in quantity, and on the 17th day of delivery (the day before her death) there was milk in her left breast.

Urine.—The secretion of urine also requires comment from its copiousness ; for notwithstanding the surprisingly profuse perspirations, it was more abundant than is generally the case. On two occasions only was it necessary to introduce the catheter, viz. on the day after delivery, when sixteen ounces were abstracted from the bladder, and on the morning of the ninth day of delivery, when twenty ounces were drawn off.

Nervous system.—I may here refer to the extraordinary irritability of this lady's nervous system, as evinced during the period of gestation, and to her unceasing watchfulness, both which circumstances strongly inclined me (as I have before stated) to the belief that sooner or later she would become the subject of puerperal mania. The day after her delivery there was very great excitement, demonstrated by a quickness of manner and a rapidity of utterance ; this was mitigated by the administration of hyoscyamus until the fifth day of delivery (May 11th,) when it again recurred with increased force, and was only assuaged when she changed her nurse. At times, too, throughout her illness, our attention was particularly drawn to the forced calmness which she assumed, asking our real opinion of her state, saying she was not afraid to hear it, while at the same time it was evident she was exceedingly anxious about the result. The imperfection of the senses of hearing and vision is also worthy of note, the latter occurring before the former, and both varying in degree at different times. The absence of delirium until the close of the disease must not be passed over silently.

Abdominal symptoms.—The abdominal symptoms deserve especial notice, for not only do they go far to mark the particular character of this disease, and aid us in distinguishing it from other diseases of the puerperal state, but they also bring before us the circumstances which accelerated, or in all probability were the proximate causes of the patient's death. And the first I will remark on is the *pain*. During the three last months of gestation, the patient suffered from a constant dull pain midway between the crest of the ilium and floating ribs, and at this spot it was that the placenta ad-

hered. On the fifth day of delivery (May 11th,) she complained of a dull *sore* pain in the left iliac region, slightly increased by pressure. To relieve this, eight leeches were applied, and with success. On the tenth day of delivery (May 16th,) she complained of a soreness in the same region, rather lower in the pelvis, but on the firmest pressure no pain was complained of, neither was there at the time Dr. Blundell first saw her, for he tested it by a careful examination of the whole abdomen. This soreness continued with slight intermission to the last. *Tympanites.*—From the fifth day of delivery till within two or three days of her decease, there was a sub-tympanitic state of abdomen, and at the same time frequent attacks of eructation. The tympanites became very much augmented within 48 hours of her death. *Diarrhœa.*—I must here again refer to the previous history of this patient as demonstrating the peculiar irritability of the alimentary canal. On the 20th, (the fourteenth day of delivery,) she was reported to have had three motions during the night ; on the 20th day of delivery the bowels had been opened twice during the night and twice in the day ; from this time they continued very much relaxed, nothing seeming to control them. The motions were at first of a darkish hue, afterwards of a light yellow, and towards the last, very similar to rice-water evacuations.

Tongue.—The state of the tongue also must not be passed without notice. Throughout the whole of the illness it may be said to have been comparatively a clean tongue. It was neither creamy, furred, brown, or dry, as it is in the various modifications of puerperal fever, neither was it morbidly red even at those times when the diarrhœa was most distressing.

Diagnosis.—The only disease with which hidrosis can readily be confounded is puerperal fever, but the variable and soft pulse, the peculiar and characteristic sweats, and the appearance of the tongue, will assist us in our diagnosis. The following table will, however, bring at once before the reader's eye those symptoms which mark the several varieties of puerperal fever, and by contrasting them with the symptoms of hidrosis, the distinction between the two diseases will be readily perceived. I must here take the opportunity of referring to the valuable investigations of Dr. R. Lee, from the perusal of which no one can rise without deriving information.

HIDROSIS,
OR
HDRIOTIC FEVER.

PUERPERAL FEVER.

PERIOD OF ATTACK. }	SYMPTOMS..			
	<p>Inflammation of the peritoneal covering of the uterus and peritoneal sac.</p> <p>Before the fourth day.</p> <p>Rigors, followed by heat of skin, suffusion of countenance, hurried respiration, thirst, nausea or vomiting, vertigo or intense pain in the forehead. Patient lies on her back, with her knees drawn up; great tenderness of hypogastric region, increased by pressure; abdomen becomes swollen and tympanitic; diarrhoea and vomiting of black or green coloured fluid follow.</p>	<p>Inflammation of the uterine appendages, viz. the ovaria, fallopian tubes, and broad ligaments.</p> <p>Generally before the fourth day.</p> <p>Constitutional symptoms at the commencement similar to those which mark the accession of peritonitis, but they are speedily followed by prostration of strength. The pain is generally less acute than in peritonitis, and is chiefly seated in one or other of the iliac fossæ, extending to the loins, anus, and thighs.</p>	<p>Inflammation of the mucous, or muscular, or proper tissue of the uterus.</p> <p>Generally before the fourth day.</p> <p>Rigors, followed by a hot and dry skin, afterwards becoming cold, and often of a peculiar blue or sallow tinge, respiration hurried, great prostration, pain of the hypogastrium; frequently severe headache and delirium, occasional nausea, vomiting, and diarrhoea. The disease generally runs its course with great rapidity.</p>	<p>Inflammation and suppuration of the absorbent vessels and veins.</p> <p>Generally within twenty-four hours after delivery.</p> <p>Pain, more or less acute, in the region of the uterus, accompanied or followed by a severe rigor, or a succession of rigors, cephalalgia, or slight incoherence, with a sensation of general uneasiness, nausea, vomiting, and diarrhoea. These are speedily followed by increased heat, tremors of the muscles of the face and extremities, anxious respiration, thirst, and frequent vomiting of green matter; sometimes a state of drowsy insensibility or violent delirium, and agitation, followed by great exhaustion; surface of body becomes sallow or spotted; eyes are frequently affected; there is tympanites. Suppressed.</p>
LOCHIA	<p>Generally entirely suppressed; if not, diminished, and sometimes offensive.</p> <p>Usually flaccid.</p> <p>Quick, wiry, 120 to 140 in a minute.</p>	<p>Generally altogether suppressed.</p> <p>Secretion of milk suppressed. Frequent, feeble, and often intermitting.</p>	<p>Suppressed, or diminished, and when present foetid.</p> <p>Milk suppressed.</p> <p>Pulse rapid and feeble.</p>	<p>Generally within twenty-four hours after delivery.</p> <p>Pain, more or less acute, in the region of the uterus, accompanied or followed by a severe rigor, or a succession of rigors, cephalalgia, or slight incoherence, with a sensation of general uneasiness, nausea, vomiting, and diarrhoea. These are speedily followed by increased heat, tremors of the muscles of the face and extremities, anxious respiration, thirst, and frequent vomiting of green matter; sometimes a state of drowsy insensibility or violent delirium, and agitation, followed by great exhaustion; surface of body becomes sallow or spotted; eyes are frequently affected; there is tympanites. Suppressed.</p>
MAMMÆ ... PULSE				<p>Milk suppressed.</p> <p>Accelerated and feeble.</p>
TONGUE	<p>At first covered with a cream-like film, afterwards dry and brown: the lips and teeth covered with scord.</p>	<p>Generally coated with a brown fur.</p>	<p>Tongue loaded, speedily becoming dry and brown; the lips at this time are covered</p>	<p>Brown and dry.</p>

Sometimes before delivery; generally within the first 8 or 9 days. Rigors, sometimes slight, at other times violent; sometimes but one, at other times three or four occurring at uncertain intervals; these soon followed by perspirations, "surprisingly profuse," and well denominated "sweats of distress." There is present a morbid state of the nervous system, shewing itself in pettishness of manner, rapidity of utterance, &c.; sometimes there is a forced calmness. Generally there is but very little pain, although frequently uneasiness in the region of the ovaries; there is more or less tympanites, dyspnoea, and violent palpitation of the heart; there may be retchings or vomitings; and very frequently there is diarrhoea.

Pale, sometimes offensive, in some instances suspended.

Secretion of milk usually disturbed. Generally frequent and round; in some cases soft and bounding; often very changeable, rising and falling several times in the course of a few hours. Generally white.

Morbid appearances.—Of the morbid appearances I have but little to say; I must, however, call attention to the fact, that on the left side of the uterus, where the placenta was adherent, and where the pain and soreness were located, only coagula were found occupying the uterine sinuses and veins, such as are commonly met with when the uterus is examined a few days after delivery, while on the right side, where there was no pain, nor even uneasiness, there were spots of ecchymosis, ulceration, and softening; the uterine sinuses and veins were even found filled with a fluid more or less purulent, corresponding in its colour and nature with the discharge which was received on the napkins during life. The free exit allowed to this fluid, and the circumstance that no other branches of the venous system were in the least degree affected, are points that are well worthy of remark.

Treatment.—On the treatment I have but one or two observations to make; and first, as to *bloodletting*. Throughout the whole course of the disease there never were sufficient grounds to warrant the employment of that remedy. On the 5th day of delivery (May 11th,) eight leeches were successfully applied to relieve the pain and tenderness in the left side. It is quite true I was on the watch for symptoms of inflammation, which not unfrequently occur in cases where the placenta has been adherent, or where manual interference has been found necessary. When the disease had clearly established itself, mercury, and that in its mildest form, was ordered, upon the authority of Dr. Blundell*, who has recommended it to be thrown in “whether by the mouth, lungs, or inunction.” To this plan of treatment the Doctor in consultation gave his assent, and in addition to the employment of mercury by the mouth, he ordered the rubbing in of the mercurial ointment; yet the patient expired without the least evidence of mercurial action. My last observation refers to the employment of the disulphate of quinine. I hesitated before I ventured upon this remedy; but when I saw my patient with a clean tongue, her liver free, with no delirium, but with a combination of symptoms not altogether unlike those attendant upon the formation of pus

under other conditions of the body; when I found that each rigor had been followed by a discharge from the vagina more or less purulent; I was induced to make trial of the quinine, but still before doing so, I submitted the propriety of the remedy to Dr. Blundell. During the period the patient took the quinine, there was a diminution of the perspirations, and a decided improvement in the character of her pulse, and it was only the attack of severe pain in the head, and the occurrence of diarrhœa, that caused me to suspend its employment, and at this moment I cannot help thinking that but for the exhausting effects of the diarrhœa, our patient would have rallied through, although with a tedious and protracted convalescence.

PHYSIOLOGY OF THE TUNICA CHOROIDEA.

To the Editor of the Medical Gazette.

SIR,

ALTHOUGH the peculiarities of the vascular system of the choroid coat of the eye have been accurately described, I am not aware that physiologists have adduced any facts connected with the functions of the bloodvessels in explanation of these peculiarities.

This membrane differs from most others in the body, in the arrangement of that delicate network of arteries and veins of which it is composed. These are united by fine cellular tissue, the corresponding arteries and veins not accompanying each other in their distribution, as in many other structures, but the veins being situated externally, the arteries internally. The true choroidal arteries, called posterior ciliary, are branches from the ophthalmic artery: after entering the eye, through the sclerotic coat, near the attachment of the optic nerve, they pass for a very short distance on the choroid coat, before penetrating to its inner or retinal surface, which is, in fact, formed by them, with the assistance of their connecting cellular tissue. These arteries, then, pass forwards, running nearly parallel with each other, towards the ciliary ligament, where they terminate without sending branches to the ciliary processes, these structures being supplied

* See his Lectures, edited by Dr. Castle.

from another source. In this course nearly all their branches are distributed so as to form, in conjunction with venous radicles, that peculiar villous arrangement by which the pigmentum nigrum is secreted, and maintained in a proper state for the functions to which it is destined.

The veins of the choroid coat arise chiefly from the villous structure; probably very few having their origin from the terminations of the choroidal arteries, independent of any intermediate structure. "The branches, as they proceed forwards, bend suddenly upon themselves with a peculiar curve, towards the main trunks into which they open. Those near the main canals have a short and nearly straight course, making but a slight curve previous to their discharging themselves into the large veins. The more remote ones, however, take a semicircular course; they anastomose frequently with each other, and receive anteriorly the veins from the ciliary body and iris; then passing backwards on themselves, they unite with the set coming in an opposite direction, and form the commencement of the larger or proper ciliary veins*."

No nerves have hitherto been discovered in the organization of the choroid coat, if we except those minute nervous filaments which are now believed to exist in the coats of all arteries throughout their extreme ramifications.

Another circumstance of considerable importance in reference to its physiology, is the total absence of lymphatic absorbents in this membrane.

The structure of the choroid coat appears thus peculiarly arranged in consequence of the function it has to perform—the secretion of the pigmentum nigrum. This dark pigment has, until recently, been described by authors as a secretion *sui generis*, lying in contact with the external surface of the retina. The discovery of the tunica Jacobi, has, however, given a different view of the subject, and Dalrymple† has adduced many powerful reasons for considering this tunic a double reflected serous membrane, having a retinal and choroidal portion. It may be also noticed that as the pigment covers not only the internal surface of the choroid, but also the anterior and posterior surfaces of

the ciliary processes, and the posterior surface of the iris, a similar serous membrane, therefore, most probably exists in all these situations, constituting in the latter instance what was formerly called the uvea. There can be no doubt that this pigment in the perfectly healthy human eye, during life, is of a deep black colour, yet anatomists have described it as being dark brown. After death it undoubtedly is so. But were this the case during life, how could the pupil present that glossy blackness, upon which the brilliancy of the eye so much depends? The dark colour of the pupil arises from our seeing the choroid through the cornea and humours of the eye, all which, being perfectly colourless, could not possibly give a black appearance to that which is in reality dark brown. I have also noticed in cases of injury or disease, where portions of the pigmentum nigrum have been found in the anterior chamber, these portions were perfectly black.

The necessity for the existence of the pigment, when we consider the eye as an optical instrument, is at once evident. Were the interior of the choroid of any lighter colour, the reflection of the rays of light thus produced would materially interfere with the correctness of impressions received by the retina. But although this pigment forms part of the optical apparatus of the eye, it is also a vital structure, and as such, must be constantly kept in a fit state for the function to which it is devoted. This can only be accomplished by those parts of the pigment which are no longer fit for duty becoming absorbed, and replaced by fresh secretion. How is this absorption accomplished? I have already mentioned that no lymphatic absorbents exist in the choroid coat, but that there was a peculiar arrangement of the venous system of this membrane, differing from that in any other part of the body. Where there is a complication in the arrangement of any structure, an appropriate peculiarity of function is to be expected. It is therefore, to say the least, highly probable that the singular manner in which the venæ vorticosæ are disposed, depends upon their connexion with the absorption of the pigmentum nigrum. It is now generally admitted, that absorption takes place by means of the veins to a very considerable extent: as, then, in the choroid, no lymphatic absorbents exist,

* Dalrymple, *Anatomy of the Human Eye*, p. 31.

† *Ibid.*, p. 95.

is it going too far to attribute the absorption of this pigment to the venæ vorticosæ, which, by their structure and position, are so admirably adapted for such a purpose?

An examination of the eye of the albino, which presents a choroid possessing no pigmentum nigrum, appears to show that there is some intimate relation between this secretion and the veins of the choroid. I have never had an opportunity of dissecting the eye of the human albino, but, upon carefully examining the eye of the white rabbit, after it had been minutely injected, I could trace no vessels in the choroid in the least resembling the venæ vorticosæ; the veins in this instance having the same irregular appearance as those noticed in any other membrane.

From the foregoing circumstances, I have been led to conclude, that at present there is no better method of accounting for the curious vorteginous arrangement of the choroidal veins, than by supposing them the agents for the absorption of the pigmentum nigrum.

I am, sir,

Yours respectfully,

R. T. HUNT.

Manchester, August 28th, 1837.

ON THE

PHYSIOLOGY OF THE MUSCLES OF THE EYE-BALL.

To the Editor of the Medical Gazette.

SIR,

MAY I request the favour of your inserting a few additional remarks to my paper on the Physiology of the Muscles of the Eye, published in the number of your journal for December last, and which has been answered in your last number by Mr. Walker. My wish is to explain more fully those points in my paper which I think have not been properly understood, and which Mr. Walker has endeavoured (though unsatisfactorily, according to my view of the subject) to controvert. I may state at the same time, that I have no other object in view than to ascertain the most probable function of the various parts to which my paper referred, and which, from the difficulty their intricacy

presents, must always rest rather upon theory than upon any decided assertion as to what the true nature of their function may be.

In my former paper I advanced a theory, intending to show that the complicated motions of the eyes, and the action of the many different muscles, might be explained by associating them in a manner so as to make a distinction between those that are voluntary and those that are involuntary or sympathetic, and then to see if the peculiar distribution of the nerves bore this arrangement out. Mr. Walker, however, disputes this difference in the function of the muscles, and brings forward reasons against it that I certainly cannot think at all conclusive, or sufficiently strong to destroy my theory, be it right or wrong.

With regard to one point he partially allows himself to have been in error, namely, as to the insertion of the superior oblique muscle in the human eye; for in his former paper he says, that it is "not inserted behind, but directly over the centre of the eye-ball, or perhaps rather anterior to it;" while in his last paper he says, "I admit that my description of the insertion of this muscle was not taken simply from what I had observed in the human eye, for in the human subject I am aware that its insertion is rather more posterior than in the eyes of quadrupeds." In one paper he says it is rather more anterior, and in the other that it is rather more posterior.

From whatever animals Mr. Walker took his dissections, I presume that his object was to decide upon the functions of the human eye; for his theory is founded on the lateral motions of the two eyes, which is almost peculiar to man. If, then, the insertion of the muscles is different to that which he originally advanced, and the difference is such as to alter the action of the muscles altogether, his theory, which depended on this point, must be greatly weakened, if not altogether subverted; for any one the least conversant with the anatomy of the muscles of the eye, must at once see that when the superior oblique is inserted anterior to the transverse axis of the eye, its action must be quite different to what it would be were it inserted posterior to it. The former insertion he first of all advocated, and founded his theory on it; and in his

last paper he states the latter to be the true one, and acknowledges his former error, though not in very decided terms. But what appears to me extraordinary is, that he still advocates precisely the same theory, notwithstanding he allows this difference in the insertion of the muscle; for if the superior oblique be inserted anterior to the transverse axis, it no doubt will tend to pull the eye inwards,—while, if it be inserted posterior to this line, it will tend to turn it outwards, when the direction of the muscle is considered.

Mr. Walker does not notice the rotatory power of the superior oblique that must take place when the muscle acts, and which I advanced as a reason why it could not act in concert with the external rectus of the opposite eye; for this latter muscle only turns the eye directly outwards, and has no power of turning it upon its anti-posterior axis.

Mr. Walker also argues for the importance of comparative anatomy, as affording great assistance in explaining these points; but he does not take up the argument that I deduced from it against his theory, viz. that if the office of the superior oblique be to produce the parallel motion of the two eyes, by acting with the external rectus of the opposite eye, what becomes of this action in animals who have not the power of producing this parallel motion? for in them, according to Mr. Walker's theory, did these two muscles act together, one eye would be turned inwards towards the nose, while the other was turned outwards towards the ear. Take the horse or the sheep, for instance, and with the above action they would be looking forwards with one eye, and backwards with the other, and producing any thing but a parallel motion. Comparative anatomy here, then, does not support his theory.

Mr. Walker accuses me of making "startling propositions." If I am guilty of doing so, I think he is guilty of the same fault; for when he says, that "the eye is not turned upwards during sleep, and downwards when we awake," and that "if the two internal recti act together they must direct both eyes forwards," it appears to me that he is making propositions that are startling to any one who has made observations upon the subject, and considers the action of the different muscles. With regard to the rolling of the eye upwards

when the eyelids are closed, the following observations may be made to prove it:—When a person is asleep, raise the upper eyelid, and the pupil will be found almost entirely concealed, by the globe of the eye being turned upwards, and, at the same time, slightly outwards; or, observe a person when fainting or dying, in whom the voluntary muscle that closes the eyelid has not sufficient power to act so as to conceal the ball of the eye, in them it will be often found that the eye rolls upwards, and partially or completely conceals the pupil. Again, in paralysis of the portio dura, when the orbicularis muscle cannot act, tell the patient to try and close the eyelids, and the ball of the eye will be immediately seen to roll upwards, the involuntary action being produced, although the voluntary cannot be. Lastly, place the finger on the surface of the eyelids when they are gently closed, and then make an effort to close them still more, and the eye-ball will be felt to roll upwards, and to turn downwards again when the attempt is made to open the eyelid. Yet, with all these facts, and facts they are, Mr. Walker says "that the eye is turned upwards during sleep, and downwards when we awake,"—a proposition from which I dissent altogether. Upon what grounds he reconciles his dissent I am at a loss to know, without it is, that he has not made the above observations.

Concerning the action of the superior oblique muscle, Mr. Walker says, "It is quite apparent, however, that no reason can be assigned for this muscle turning the eye downwards in the human subject, whilst in quadrupeds it turns it inwards." My reasons for supposing this muscle to turn the eye downwards after it has been turned upwards during any of the above actions of fainting, sleeping, or in paralysis, are, that no muscle is so well suited for the office, both from its position, and from its insertion going so far back; besides, the inferior rectus cannot do it, without we allow this muscle to act in two different ways: for, in my former paper, I stated that "it cannot be the inferior rectus that rolls the eye downwards during the motion of opening the eyelids, for I have shown that it cannot act except when the levator palpebræ is relaxed, which of course it is not while the eyelids are being opened, for then that muscle is in strong action."

The only muscle then that can do it, is the inferior oblique.

With regard to the inferior oblique turning the eye upwards when the eye-lids are closed, the same reasoning applies to it; for not only is the position and insertion of the muscle suited for this office, which at the same time turns it outwards or towards the lachrymal gland (a beautiful provision for keeping the surface of the cornea clear and transparent, and which no doubt is the reason of the constant winking action that takes place), but Mr. Walker himself supports this view by an assertion he makes; for he says, the superior rectus never acts without the levator palpebræ (which I also stated in my former paper); and if so, it is quite evident that the superior rectus cannot turn the eye upwards during this action of closing the eye-lids, for then the levator palpebræ is relaxed, and it of course will also be: the only muscle, then, that can do it, is the inferior oblique. Yet Mr. Walker asks, "Why cannot the eye be turned upwards by the superior rectus, and downwards by the inferior rectus?" If he denies the rollings of the eye, which he does in his last paper, when the eye-lids are being opened or shut, he will of course not give the oblique muscles the power of producing this motion. But as I think there can be no doubt of the eye being rolled upwards when the eye-lids are closed, and downwards again when they are opened, whether we take our observations during sleep, fainting, winking, or paralysis of the portio dura, which afford sufficient proof that such motions do take place, it appears to me that no muscles are so capable of performing these motions as the superior and inferior oblique.

Mr. Walker criticizes rather severely my reasoning on the distribution of the fourth nerve, and he gives two of my reasons, but by some mistake leaves out my third and most important one; for I not only stated that the situation of the muscle was far from the inferior portion of the third nerve, which supplies two of the recti and the inferior oblique, and that the course and peculiar direction of the muscle also gave it claim to a separate nerve, both of which reasons Mr. Walker takes notice of; but I also stated,

which he has not mentioned, that as the superior oblique is an antagonist to the inferior oblique, you would not expect it to be supplied by the same nerve, and for this reason it has a different one. My words are—"At the same time that it (the superior oblique) is also an antagonist to one of the muscles supplied by this portion, the third—namely, the inferior oblique, which is an additional reason why it should not be supplied by the same nerve, but rather have a separate one to itself." If criticism be severe, it should at the same time possess fairness.

One of my "startling propositions" consists in saying, that when "the two internal recti, or the two inferior oblique, act together, they will turn the eyes in opposite directions." Now this certainly appears to me to be the fact, whether it be startling or not; for if the two internal recti act together, they must turn both the eyes inwards towards the nose, and make one eye look to the right, and the other look to the left; and if this be not in two opposite directions, I do not know what opposite means. The same may be said of the two inferior oblique; for they each of them turn the eye upwards and outwards, or towards the lachrymal gland of the side to which they belong, which motion is any thing but parallel. Mr. Walker appears to me to make the "startling proposition," when he says that—"surely, if the two internal recti act together, they must direct both eyes forwards." They no doubt steady the eyes in this direction, when they have been once brought there by the combined action of the external recti; but they are not then acting together, for the internal rectis of one eye is opposing the external rectus, which is the only means of keeping the eyes straight forwards; for as soon as one or the other muscle becomes relaxed, the eyes are turned to one side, and the lateral motion is produced. The only time at which the two internal recti act together, is in looking at an object placed near to the nose, when both eyes have their axes directed inwards. The action of the internal rectus of one eye implies the relaxation of the external rectus of the same eye, and when both internal recti are in action together, it implies the relaxation of both external recti; and

then the eyes are in the position of squinting inwards, which is any thing but being directly "forwards."

I am also accused of "inconsistency" in the following passage, which runs thus:—"If we raise the upper eye-lid the eye-ball follows with it; if we close the eye-lids, the eye rolls upwards, and when we open them again, it rolls downwards." Mr. Walker says that "these are statements which are opposed to one another, and destroy one another, and none of which is correct but the first." If he means to say that the motions of closing and opening the eye-lids, and of the eye-ball turning upwards and downwards, are opposed to one another, I agree with him; but what this has to do with the above assertions I am at a loss to find, for I merely stated them to show that such motions of the eye-lids do take place at different periods, and that they are accompanied with the above movements of the eye-ball. I advanced them as facts only, and have given examples of the particular circumstances under which they occur.

Mr. Walker asks for proof of the theory I advanced, of certain muscles being voluntary, while others are involuntary or sympathetic only. I have no *proof* to offer, any more than can be given for any theory that is founded on parts that are out of the way of experiment, viz. by looking at the anatomical relations of the different muscles, and classifying them according to their peculiar actions, and endeavouring to arrange the nerves in a manner that corresponds to their action. In conjunction with which, I offered an explanation of the use of the lenticular ganglion, by supposing it to take part in producing this combined action, and exciting an influence over those muscles which appear to act more from sympathy than from any voluntary effort. I think I have an equal right to ask for *proof* of Mr. Walker's theory. In another part he says—"It is very easy to say that the inferior oblique turns the eye upwards in sleep or winking, but who can demonstrate that it does?" I may use the same argument with regard to his theory, and say—It is very easy to say that the superior oblique turns one eye inwards, while the external rectus of the opposite eye

turns the other eye outwards, but who can demonstrate that it does?

The last point in Mr. Walker's paper which I have to consider, is where he says there is no reason for supposing the internal recti to be involuntary more than the external. In answer to which, I would ask him to explain involuntary squinting inwards, which so many people have, either from birth or from disease of the brain. Take a case of fever, for instance, accompanied with effusion in some part of the brain: squinting inwards is often a consequence, at the same time that the eye-lids partially fall, and the patient has not the power to raise them. On the theory that I have advanced it admits of explanation, by supposing the two voluntary nerves to be paralysed (and we know that in paralysis the voluntary nerves are chiefly, if not always, affected), namely, the sixth, and the superior portion of the third, both of which supply the two muscles that are paralysed, namely, the external rectus, and the levator palpebræ; the consequence of which is, that the internal rectus acts, and produces the squinting inwards, and the eyelid falls. The sixth nerve, however, is more frequently alone paralysed. Were the internal rectus a purely voluntary muscle, why should it not be more frequently paralysed? for squinting outwards is very rarely met with, while squinting inwards is a very common occurrence; which is easily explained by supposing the one to be a voluntary muscle, and the other an involuntary one. The tendency to paralysis in the voluntary muscles of the eye is also further borne out by the fact of the levator palpebræ being so often affected (which there is no doubt is a voluntary muscle) in the disease called "ptosis," where the lid drops, and the patient has no power to raise it. This muscle and the external rectus being the two muscles most frequently paralysed, certainly bears out the theory that they are more voluntary than the rest, knowing, as we do, that this class of muscles, throughout the body generally, are more subject to be so affected than those that are involuntary.

Having met these objections, which appear to me to be the most important ones that Mr. Walker has advanced against my paper, I have no wish to

prolong the discussion further, by entering again into the probability of the theory I advanced being the true one, except on the grounds that I have already stated in my last paper.

I remain, sir,
Your obedient servant,
EDWARD F. LONSDALE.

2, South Crescent, Bedford Square,
Sept. 4, 1837.

ON THE APPRENTICESHIP SYSTEM.

To the Editor of the Medical Gazette.

SIR,

It has been the fashion, for the last few years, for writers on medical education (especially anonymous writers) to decry the old apprenticeship system. It appears highly probable that many of these well-intentioned gentlemen have not carefully informed themselves upon the subject, for their conclusions are at variance with the opinions of many of the more intelligent and experienced general practitioners. The system, I grant, may, like all other plans, be abused, yet the abuses do not prove it to be necessarily bad. Much stress has been laid upon the results of the Hall examinations, as an argument against the apprenticeship. Perhaps it is not known generally that many who present their indentures at the Hall, have never, in fact, served an apprenticeship at all: there are men in practice who will sign an indenture, and never contemplate instructing the apprentice, perhaps never see him for years afterwards: these *pro formâ* documents are by no means rare. The deficiency that many candidates shew in the Latin language is brought against the system. This does not appear fair; for no youth should enter the profession who has not first acquired a sufficient classical education.

The common assertion that the time spent in an apprenticeship is wasted, as no valuable information during that period is to be obtained, is a gross error; and I am surprised that any person should entertain it. As this is the grand charge, and embraces all the minor objections, I shall endeavour to shew that

those who approve of the system have some grounds for their opinions.

I consider it to be a piece of flagrant injustice to general practitioners, to hold them up to the public as men who are totally incapable of imparting to their pupils any useful professional information, of aiding them in the formation of any beneficial habits of moulding their manners, or improving their characters. What, I would ask, is it that incapacitates them—what second curse has fallen upon them, to bewilder their intellect—what organic lesion has their brain undergone, which prevents them from communicating the results of years of extensive observation? It will be allowed, that many general practitioners have been educated, in early life, in all the useful and ornamental branches of knowledge—have been accustomed to intellectual society—are men of high moral character and cultivated minds—men of taste; and although their professional labours may prevent them from being learned, in the strictest sense of the word; yet there are to be found amongst them those who keep up their mathematical, classical, and other studies, and who are not ignorant of foreign modern languages; but yet, as they are personally responsible for the preparation of the medicines they prescribe, they are, *ipso facto*, a stupid, ignorant, and contemptible genus.—Q.E.D.

I hold it important that a youth should be, for a few years after he leaves school, under the surveillance of a person in that profession for which he himself is intended: at that critical age, to throw a lad upon the public, free from the salutary control of an apprenticeship, is surely a very dangerous experiment. The apprenticeship forms a very good intermediate step between home and the great world; it leads the youth gradually to depend upon himself, and calls forth his practical energies.

Let us look into the nature of an apprenticeship, without taking an extraordinary case.

A clever and well-disposed youth, with a decided taste or inclination for general medical practice, having a competent education, is placed at the age of sixteen with a respectable, intelligent, established practitioner, as an apprentice for five years; the lad desirous to make the best of his time, and

the master disposed in a conscientious manner to do his duty towards him, feeling himself *in loco parentis*. The apprentice immediately commences practical pharmacy—soon becomes familiar with the Pharmacopœia, and with the different articles of materia medica—becomes habitually conversant with the various modes of combination, and the reasons for them—the doses of medicines, and the variations which age and other circumstances require in prescribing. He is led on to chemistry and materia medica, and the minor operations of surgery, and soon acquires a dexterous use of his hand. His course of reading is made out for him, and the best systematic works are placed before him; he may make himself respectably acquainted with the accessory sciences; he may acquire a good general knowledge of the various branches of medical study, and have the outlines of each well fixed in his mind, as well as a competent knowledge of intellectual and moral science, and such subjects of general interest as no respectable medical man will neglect; for let it be understood that he will have, if he duly arranges his time, at least four hours each day for reading; and the master will frequently converse with him upon the subject of his study: few young men will exhaust their advantages in five years.

Whilst carrying on his studies, he will, when sufficiently advanced, visit patients first with his master, and then visit some by himself. From this period he will receive much very useful clinical instruction, as relates to the medical, dietetic, and moral treatment of cases; he will learn not only what is to be done, but how to do it in an efficient and agreeable manner; he sees the interior of professional life and duty; he witnesses and participates in all the anxiety, turmoil, vigilance, and vexations of real practice; he acquires tact and circumspection, and learns to meet, in a proper manner, all the demands of the practice, be they reasonable or capricious,—in fact, *he learns what he can learn no where else*; he receives various hints and cautions, which, although they are not, individually considered, of sufficient importance for books or lectures, yet in their aggregate are valuable, and their being called forth by circumstances as they arise,

their practical utility is demonstrated, and they are deeply impressed upon his mind.

I believe the writers to whom I have alluded above would employ their pens to better purpose, when on the subject of early medical education, were they to direct their attention to the duties of the master and the apprentice, instead of endeavouring to upset a system which is good in itself, approved by the majority of the profession, and which must proceed in spite of all their exertions.

Thirty-five years of professional life have afforded me some opportunities for observation. I have witnessed great advantages which have arisen from a well-spent apprenticeship: many will bear testimony that that portion of their life fixed their character and insured their future success: some who have pursued the mere scholastic system, have, when they have launched upon the ocean of life, found difficulties they have not known how to meet.

A young man who has well employed his time during the apprenticeship, will go into the public schools with great advantages: his mind will be prepared for all he hears and sees; he will be familiar with the language of science, and with all the leading facts and general principles; he will at least have a well-defined outline of medical science in his mind, and he will find it by no means irksome to fill in the detail.

I am, sir,

Your obedient servant,

JOSEPH HOULTON.

87, Lisson Grove,
August 29, 1837.

ON AN
UNDESCRIBED DISPLACEMENT
OF THE
BONES OF THE FORE-ARM IN
CHILDREN.

To the Editor of the Medical Gazette.

SIR,

THERE is an accident of very frequent occurrence happening to children, from the time when they are just beginning to walk, to the age of from three to four years. A parent or servant is leading a child, or it is supporting itself by its hand—a sudden slip occurs—a slight crack is heard—the child screams—and

upon examination is found unable to use its hand; the arm hangs powerless by its side, or is supported by the other hand, and every attempt to move it is attended with considerable pain. A surgeon is summoned, and on the first aspect supposes that either the clavicle is fractured, or the shoulder-joint dislocated. But when, on a careful examination, this is found not to be the case, and the non-existence of either dislocation or fracture is satisfactorily ascertained, he believes it to be a mere bruise, places the arm in a sling, and keeps it bathed with cold lotions. After some time, whilst dressing or undressing the child, or on some sudden movement, another fall, or pull upon the arm, a slight crack is again heard, and to the great surprise of the parent, the hand is forthwith used, and is found to be quite well. We have witnessed this frequently, surgeons not being aware of the displacement which has taken place. The only consequence, however, has been the unnecessary suffering of the child, in some cases extending to several days, and the longer in proportion to the care and tenderness exercised in its management.

The accident is produced by a pull upon the arm at the hand, simultaneously with a sudden twist; the arm immediately hangs powerless, and its rotation cannot be performed without producing great pain. The displacement consists in the tubercle of the radius, to which the tendon of the biceps flexor cubiti is attached, slipping over the edge of the ulna, and being retained there. I have never seen this displacement in adults; probably the laxity of the ligaments permits it only in children, and most frequently in very young children. When a child is presented to me under these circumstances, after carefully ascertaining that there is no fracture either of the clavicle or bones of the arm, and no other dislocation, and the existence of this displacement being evident, I grasp the upper arm firmly in one hand, and with the other bring the fore-arm tightly supine, and suddenly bending the fore-arm upon the upper, the bones slip into their proper places: a slight crack is heard, and the child is well, and can at once use its hand.—Your obedient servant,

JOHN GARDNER,
Surgeon.

49, Great Portland-Street,
Aug. 30, 1837.

IODURET OF SULPHUR IN TINEA CAPITIS.

To the Editor of the Medical Gazette.

SIR,

IF the annexed remarks are of any practical utility, I shall feel obliged by the insertion of them in your valuable periodical.—I am, sir,

Your obedient servant,
T. W.

September 4, 1837.

Under the general denomination of tinea capitis, or scald-head, is included a great variety of very dissimilar and distinct forms of cutaneous diseases, originating from many causes, and requiring different modes of treatment for their removal. Few practitioners are in the habit of entering into any nice discrimination upon this subject, or even making those necessary classifications * of these forms of cuticular eruption, without which all the means that we employ must be to a certain extent empirical. How often are these diseases held up as the opprobria of our art, and become the source of a plentiful harvest to the ignorant and pretending quack, who vends his infallible, and but too often not innocuous, nostrums to those who are weak enough to give credence to his barefaced pretensions! How often is their cure undertaken by some wise sage of the female sex, because the medical man has tried all the resources of his skill in vain! The knowledge of these facts should stimulate us to inquiry, and make us more anxious in the search of new remedies,—to take precedence of those which have but too often been found inefficient and unavailing. Although medical science has progressed much of late years, much still remains secret; and it is only by patient research and minute investigation that knowledge can be elicited, or that facts worthy of attention can be

* By thus animadverting upon the want of judgment in some, I would not have it supposed that I am an advocate for the usefulness, in a practical point of view, of those minute divisions and subdivisions which Willan, Rayer, and others, have made in diseases of the skin; for I believe that all the individual varieties which they have noticed will not be found to be specific diseases, or even distinct forms of one species, but modifications of a primary class or order by constitution and long continuance.

brought to light. The book of nature, of knowledge, and of the various sciences and arts, is open to all who will search with diligence their well-stored pages; but we must also be aware that they will not be unfolded to those who are not at the trouble of exploring their contents.

Similar diseases, especially those affecting the cutis, are not in all constitutions capable of relief from the like treatment: we must mark well the habit of the patient, and take this, with a variety of other circumstances, into consideration, before we can hope to cure the various ailments to which flesh is heir, in a rational, safe, and scientific manner. This is more especially the case in diseases of the skin, as here we find a greater variety of causes brought into play, by which they are continued or excited into action. Sometimes these affections, like gout, mania, &c. &c., are transmitted hereditarily from one generation to another; and then, indeed, but too frequently, our treatment must only be of the palliative kind, and directed more to the relief of the urgent symptoms which may occasionally attend, than to the eradication and removal of the diseased action to which the cutis is periodically subject. Even in the present advanced stage of medical knowledge, from our imperfect acquaintance with the action of various medicinal substances upon the body, we must allow that we are but too often obliged to employ remedial measures, without being able fully to explain the mode, or modes, by which benefit is derived from them, only because in like cases they have been found available. Frequently do we find ulcerations which have no specific or marked character, and which have proved hitherto intractable, yield and cicatrize, under a mild mercurial course, when there can have been no reason to suspect any venereal origin. The vital actions of the body have been changed, and the health of distant parts restored, by the stimulus of the mercury; but of its *modus operandi* we are yet in ignorance. Opium, by a late writer, has been said frequently to act in a similar manner, but of this I have no experience. In such cases we may be said, and with truth, to prescribe empirically; but medicines so employed in the hands of the skilful and observant, are as safe as they are efficacious.

Iodine and its various preparations have of late years been extensively used in medicine, both in this country and on the Continent, and its value as a remedial agent all must allow. It would be out of place for me, in this paper, to enumerate the varied diseases in which it has been found available, or to mention the different forms in which it has been exhibited. It is one of the most active agents furnished us by the mineral kingdom. The preparation on which I am about to offer a few remarks, viz. the ioduret of sulphur, has been used externally as a local stimulant in the cure of scabies, and, I believe, with much success. Upon a failure of all the usual applications, I was induced to make trial of it in some obstinate cases of tinea, and was much astonished at the remarkable power it possessed over this disease. In a few days after its first application, a marked amendment took place; and upon continuing it for some little time, the eruption was entirely removed, and the scalp once more restored to a healthy state. I have used it in the form of ointment, rubbed into the head night and morning, and usually commence with one prepared according to the annexed formula:—

R Ioduret. Sulphur. gr. x.; Adipis, ℥j. fiat. Unguent.

the strength of which may be increased according as the affected part will bear the stimulus, until the ioduret is in the proportion of half a drachm to the ounce of lard, or spermaceti cerate. A slight staining of the cuticle attends its use. The preparation is accessible to all, being easily made by mixing 125 parts of iodine with 16 of sulphur, and then gently heating them together over a slow fire, or the heat of a spirit lamp, until they fuse into one mass. Strict cleanliness of the scalp should be observed, and it should be washed with a piece of flannel and some soft soap, each time before the application of the ointment. The hair should also be shaved off about once a week. When the eruption is attended with much heat, and the head is tender and inflamed, we should give some refrigerant and cooling medicines, keeping the scalp covered with a lotion of the diacetate of lead and distilled water, for a few days previous to commencing with the ioduretted sulphur. In scrofulous

constitutions, when, as is frequently the case, the glands of the neck are enlarged, the exhibition of iodine, or the hydriodate of potass internally, will materially hasten the cure. The Hydr. cum Creta, with soda and rhubarb, will also be found of great service. The use of the ointment in cases of long standing should be continued for some time after the eruption has appeared to have died away, or we shall find that the parts will again take on a diseased action.

From the experience which I have had of this remedy, I should deem it most useful in those forms of the complaint which are attended with the heaping up of a large quantity of diseased scabrous secretion, such as takes place in *porrigo lupinosa* and *favus*. These forms, also, when occurring in children, are generally more tractable than the chronic eczema of the head which occurs at this period of life. I do not mean this remark to apply to any of the eruptions which occur in infants from the irritation of teething, and which subside as soon as the cause, giving rise to them has passed by. In *porrigo decalvans* I should infer that it would be a useful stimulant; but here, having no experience of its effects, I can only offer it as a preparation worthy of trial.

The obstinacy of these diseases has, I too much fear, frequently arisen from the empirical treatment to which they have been subjected; various anomalous substances having been had recourse to, and as often as one has failed another has been substituted, until the whole routine upon such occasions has been fairly tried.

I must here say one word in censure of that mode of treatment which has been called the depilatory, and which, in my opinion, is fully as useless as it is cruel, and has nothing but its extreme torture to recommend it. No notice is usually taken of the state of the constitution giving rise to the affection. Stimulating and irritating forms of lotions and unguents are freely used; and an eruption which, when mild, would have subsided by strict attention to cleanliness and shaving the head, is by such means converted into an intractable evil. Often have I seen these affections continued merely by the means used for their removal, and disappear immediately under the use of

sedative and soothing applications. By moderating the strength of the ioduretted ointment according to existing circumstances, we shall find it available in many of the cutaneous diseases of the head, and one of the most beneficial to which we can have recourse. When, in obstinate cases, the iodide of sulphur has been used for some time, and the disease is not removed, it will be found of service to alternate its use with that of some other substance; and I know of none more beneficial than the sulphuret of potass, either in the form of lotion or ointment, as may be most convenient.

Medicines and medicinal means, which are found adequate to the cure and removal of disease in the hands of one practitioner, are frequently found useless and inefficient by another, the virtue and efficacy of most depending upon the proper application of them to the existing state of the constitution of the patient. The truth of this remark all must allow.

If these observations are the means of directing the profession to an impartial, but not empirical, trial of this preparation, the end of the writer will be attained; and he trusts that a more extended diffusion of it will tend the more fully to confirm its powers.

ON THE CAUSES OF ERECTION.

To the Editor of the Medical Gazette.

SIR,

IF I am not assuming too much in supposing that you are principally, if not solely, influenced by the novelty of the matter extracted, in making your selections from foreign journals, I think I have reason to complain that you do me an injustice in quoting the opinions of Professor Krause "on the causes of erection," without any reference to a paper wherein it will be seen that I arrived at the same conclusions with the Professor, and which I communicated to you fourteen months since. To say the least of such an oversight, it is very discouraging to your own correspondents; and the more annoying to me, as you refer to the papers of Professor Müller, which, in part, called forth mine.

The fear of being classed with that

"genus irritabile," who appear to be far more occupied with mutual jealousies and petty anxieties about their own fame than with the investigation of truth, would have prompted me to withhold altogether this communication, had I not been desirous of citing the present as an instance (I admit a trifling one) of the injustice that is frequently done to our homelabourers in the eager search for foreign novelties. All who interest themselves in the literature and science of our profession, must hail with satisfaction the facility which is now afforded us of learning what is being done by our continental brethren. But let not this advantage be converted into an evil; and, above all, let not our journalists forget, that the protection of their reputation is a duty they owe to their own countrymen.—I am, sir,

Yours, obediently,
F. LE GROS CLARK.

St. Thomas's Hospital,
Aug. 22d, 1837.

"[We are happy to acknowledge the priority of Mr. F. Le Gros Clark's observations on the action of the cavernosi muscles in erection: nevertheless, the extract from Krause's observations deserved insertion, for the confirmation which it gave, on new grounds, to the opinions they both entertain.—ED. GAZ.]

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abrégé."—D'ALEMBERT.

The Spirit of the Woods; illustrated by coloured Engravings. By the Author of "The Moral of Flowers." 1 vol. 8vo. London, 1837.

No apology, we trust, can be necessary for introducing here a brief notice of a work which, though it does not relate to the subjects to which this journal is devoted, yet is calculated to add lustre to a name already renowned in the annals of the profession. The reputation of Hey, of Leeds, has spread wherever surgery is cultivated as a science; and the two elegant volumes with which Mrs. William Hey has favoured the public are well fitted to lend grace and

ornament to that which is solid and useful. As the mind even of the most ardent cultivator of medicine cannot be unceasingly devoted to professional subjects, a pleasing alternation is presented to him who seeks repose, in the perusal of such volumes as "The Moral of Flowers," and "The Spirit of the Woods;" and we trust all the wealthier members of our profession will immediately possess themselves of these works, which will adorn alike their libraries or their drawing-rooms.

Die Wirkung der Arzneimittel und Gifte un gesunden thierischen Körper. Von Dr. WIBMER. Bd. III. München, 1837. Schloss.

THIS work, of which the two first parts of the third volume are now published, displays great labour and research. The author is indefatigable in collecting information from the most authentic sources, concerning the action of medicinal and poisonous substances. We invite the attention of medical practitioners to the subjoined facts relative to the employment of a remedy much in vogue, the *lobelia inflata*:—

"A physician administered to a man labouring under catarrh, a dose (*qu.* how much?) of the powder of *lobelia inflata*, which induced vomiting and perspiration. The dose being repeated, the patient ceased to vomit, but was seized with pain in the chest, and expired during loss of consciousness and violent convulsions."—Page 234.

Die Entzündungen. Von MICH. HAGER, M.D. 8vo. pp. 692. Berlin, 1835. Schloss.

Die Brüche und Vorfälle. Von M. HAGER, M.D. pp. 404. Berlin, 1834. Schloss.

THESE are rather fragmentary compilations than distinct treatises. The work on Inflammation, like that on Rupture, is essentially practical, and involves a great variety of subjects, discussed in the spirit of continental surgery. We recommend the author in future to have less recourse to the scissors, and more to the pen, in making his books. The constant repetition of long extracts from journals gives them too much the air of a mere common-place book.

Die Zurechnungsfähigkeit der Schwangeren und Gebärenden. Von Dr. JÖRG. 8vo. pp. 419. Leipzig, 1837. Schloss.

THIS is a medico-legal inquiry concerning the imputability of women in the pregnant and puerperal states. It contains much useful information, mixed up, however, with a deal of visionary speculation.

Handbuch der speciellen Therapie für Aerzte am Geburtstbette. Von Dr. JÖRG. 8vo. pp. 478. Leipzig, 1835. Schloss.

THIS is a fair practical compendium for the accoucheur, — “the fruit,” as the author informs us, “of thirty years’ experience.”

MEDICAL GAZETTE.

Saturday, September 9, 1837.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”
CICERO.

MEDICAL EDUCATION.

INUTILITY OF CHEMISTRY AND BOTANY AS USUALLY TAUGHT.

IN our last number we considered the subject of the preliminary education of students claiming medical diplomata, and shewed that the amount of the single acquirement in which they are examined, viz. classics, was much too small to afford them any of the benefits attributed to a knowledge of the Latin and Greek languages, and of polite literature generally; and, alluding to the more immediate utility of a knowledge of modern languages, and physical sciences, we ventured to suggest that, in lieu of, or in addition to, the Latin, some acquaintance with French, and the elements of mathematics and natural philosophy, should be required. As this is the only instance in which we shall at present advocate a claim for the knowledge

of more subjects than the system now in operation demands, it must be impressed that this knowledge is intended to be attained *previously* to the commencement of the strictly medical education, or at least of that portion of it which is, in most cases, alone of really great importance, viz. that which is conducted at some efficient medical school. The majority of students enter upon this when about 18 or 19 years old. Now surely it is most ridiculous that all which they are expected to have acquired up to this time, of such knowledge as has any relation to that which is to maintain them, and be a source of happiness or a curse to their fellow men, is the art of mixing medicines, which perhaps they know not how to use, and of translating a few sentences of indifferent Latin. This latter having been attained at school, and requiring very little trouble to maintain the small quantity necessary, the study of the former is (with a few honourable exceptions) the sole occupation of the period of apprenticeship. The consequence is, that in the three or four years thus spent in doing nothing, habits of idleness are engendered, and associations are formed, which become the ground-work of that conduct which has gained for the students, as a class, a reputation among the public which is far from creditable.

Is it, indeed, probable, that a mind which had been left utterly untilld for some years, should be able at once to settle down to a course of study far more laborious than is necessary in any other profession? The three years following the previous three of idleness are required to be crammed with study; the subjects to be learned in them might well employ the whole six: of course, the minds of the majority turn from the task either in despair or in disgust, and they seek the gratification of the tastes and passions

which had been nurtured in the unoccupied past.

Presuming, then, that (as there is good reason for believing) the periods of study could not be better disposed—because a longer sojourn in London would be too expensive, and an earlier commencement of metropolitan study inconvenient,—it would be highly desirable if some portion of the knowledge now pursued during the last three years could be transferred for attainment to the period of apprenticeship, so as in some measure to equalize the quantity of intellectual occupation during the whole time. In our last article we only provided employment for the period previous to hospital attendance. Let us see if, with this assistance, some of the studies required during the London course might not be dispensed with, and the whole better arranged.

To begin with Chemistry. This study was probably at first regarded as important in medical science, from the relation which at an earlier period of its history it had to drugs: by the same rule that leads persons to write themselves chemists and druggists, who, considering their perfect ignorance of chemistry, and the character of their trade, might better be called grocers and druggists. This intimate connexion has long ceased to exist, and the science now called chemistry has not more practical application in medicine than natural philosophy has. For what is the general plan of a course of lectures on chemistry, as at present given (in many instances by persons knowing nothing of medicine) in our schools? Why—the first half of it is occupied by the subjects of heat, light, electricity, and magnetism—no one of which is at all *necessary* to the medical practitioner, and the applications of which are scarcely found, except in the highest class of physiological inquiries. Let

us not be misunderstood—we speak here only of the *practitioner*. None would be more glad than we to see the profession composed entirely of men of true science, but if only three years can be afforded for its study, it is chimerical to look for such a consummation. The time would be insufficient, even though well employed, to make more than a moderately good chemist: then what prospect is there that every student should become, not only a chemist, but a botanist, anatomist, physiologist, medical jurist, and be besides that which it is alone his business to be—fit to practise his profession?

It is certain that, in the present state of things, philosophical chemistry cannot be efficiently learned, unless at the expense of neglecting some subject of more importance: is it, then, so necessary, or is its utility so great, that it deserves to be specially retained in the curriculum of medical education? All the *practical* applications of chemical science may be well and safely made by those who are ignorant of its theories, and of the explanation of the processes, which they may nevertheless direct with the most marvellous accuracy and tact. The dyer, the brewer, the gas factor, and a hundred others, are daily directing and applying processes, whose explanation, if known, is possible only by a knowledge of the highest laws which chemical investigations have as yet discovered. And it is proverbial that he who has a merely practical knowledge of his business, will produce a far better article than he who possesses a knowledge of the science short of the very highest grade as yet attained.

But we need not risk offending ourselves and our fellow practitioners, by saying that we might in this respect follow the example of tradesmen—we will rather think that they do as we do. To consider for an instant, not the attainments of students,

but the knowledge possessed by advanced and esteemed practitioners: how many of the physicians, surgeons, and general practitioners, whose rich incomes testify their full ability to carry on their profession with credit, can employ the knowledge which they with such labour acquired in their pupillage? How many could accomplish a correct analysis of a mineral water, or detect a poison satisfactorily in an organic mixture? We will venture to answer—not one who has not made the subject one of special study subsequently to having received his diploma. A man may quite opportunely prescribe or dispense an effervescing draught, without knowing the laws of chemical affinity, or of atomic combination — or direct damp cloths to be applied, without recognizing in this practice an application of the doctrines of latent heat; in the same manner that he may apply a tourniquet without knowing the principle of the screw, or reduce an old dislocation, when ignorant of the mechanical properties of the pulley. Lecturers on chemistry, indeed, say the one cannot be done, and professors of mechanics aver with equal firmness the impossibility of the others; but we rather think we have seen them all accomplished by those who were quite innocent of any scientific knowledge of the subject. We need say no more to prove that medicine may, in all its branches, be safely and well practised without a knowledge of the *science* of chemistry. Then, should it be retained in its present form in the general course of medical education? For the discipline of the mind, either chemistry or natural philosophy would be, in the highest degree, useful: but the mind should be disciplined before the main study of medicine commences; and one of these sciences might be made the subject of attention during the otherwise vacant hours of the apprenticeship. It

would matter but little which was chosen; but we would select natural philosophy, because it can be more easily studied without expensive apparatus, and does not at all enter into any other course of lectures. Then, all that is most useful in chemistry might be taught in the lectures on *Materia Medica* and *Forensic Medicine*. The former course, indeed, can never be made to extend to the 100 lectures, so absurdly required, without pressing into the service matter from every surrounding source: medicine, surgery, anatomy, chemistry, natural history, must all be made to lend their aid, to expand the otherwise dry subject into its proper space and time*. The time occupied in this course, viz. 100 hours, would be quite sufficient to teach the student as much as he now learns by the 100 of chemistry, the 100 of *materia medica*, and the 50 of botany, together. We would refer to the admirable lectures, the publication of which is now nearly completed, by Mr. Pereira, and ask what point of practical importance in therapeutics, in chemistry, botany, or even natural history, is not there treated of? What a luxury would it be to the student, and what a benefit to the public, if 150 of the precious hours of his short period for study could be taken from subjects which, as they are at present cultivated, we hold to be nearly useless, and given to the clinical pursuit of the practice of his profession!

Why Botany should be deemed essential to the study of medicine we are at a loss to imagine. With the disappearance of their “meagre looks,” and “sharp misery,” apothecaries have given up the “culling of simples,” and resorted to far more profitable employment; and if it be only to teach the characters of drugs that botany is insisted on, mineralogy and entomology

* We know that a learned professor on this subject once devoted six lectures to the subject of Captain Parry's voyage to the North Pole.

ought also to be introduced. If it be to teach vegetable physiology, all that is applicable or useful of that ought to be given in the lectures on human physiology; it has no right to be preferred before comparative anatomy and the physiology of animals. Besides, just as with the philosophy of chemistry, no advantage can possibly be derived from the superficial acquaintance which is all that the time of the student will allow him to obtain. We would here again ask, how many practitioners of ten years' standing are botanists?

Now, we must repeat that all that we have said in favour of removing theoretical chemistry and botany from the rank of separate classes in the course of London education, is only conditional. If five years instead of between two and three could be given, they might safely and usefully remain; but in the present system they occupy time that might be better employed. The passing of his examinations is the great end the student has in view; and as for this all his subjects must be learned, he of course gives about equal attention to each, and obtains a nearly useless amount of knowledge in all. Were the system we have suggested adopted, he would have a surplus of some hundred hours (including the time now spent in working up the lectures) to add to the scanty allowance for medical and surgical practice. And in accordance with the smaller number of separate subjects required from him, so should the examination in each of those left be more complete and scrutinizing, — the superficial knowledge of chemistry, botany, and materia medica, at present demanded, being replaced by a very complete one of the latter in all its branches. It is the perfect knowledge of one subject, not the smattering of a dozen, which makes a man scientific, and, *cæteris paribus*, exalts him among his fellow men, and separates

him from the ranks of the pseudo-omniscient members of mechanics' institutes, and such like establishments.

The difference of repute between the physician and surgeon and the general practitioner, depends not on the higher degree of education required of the former—for the requirements made by the Apothecaries' Hall are greater than those by either College—but rather to the better and more general previous education which they have received, and still more to their giving up a longer time to the exclusive study of practice, and the sciences bearing most immediately upon it.

The student who intends to practise surgery alone, knows very well that he is not likely to have a severe examination in chemistry, or therapeutics, or botany, or medical jurisprudence; and he therefore neglects these to learn more perfectly his anatomy and practical surgery, which he will want both at his examination and in practice. And in the same way the physician may safely neglect much of what may be called *external* anatomy. But the apothecary, who can afford least time for study, is required to learn all these subjects, and be fit to practise too. The necessary consequence, which common sense might lead to be expected, follows—attempting to learn every thing, he learns nothing well. But he obtains his license, doffs his chemistry, botany, and every scientific ornament which he had put on for his examination, and then sets about learning to *practise* his profession by experiments on the public, unless he can afford the time and expense of some additional attendance at a hospital. This last is a course very generally followed by the more respectable students, who pass their examination at the earliest period possible, that they may have their minds clear of some of the numerous subjects they have to keep up till that is over,

and be themselves fitted for quiet clinical study,—a tacit reproof to those who have declared them qualified to practise, by showing that they are themselves aware of their own deficiencies in the most essential part of their knowledge.

HÔPITAL LA PITIÉ.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem the following series of cases illustrating the diagnosis and treatment of pneumonia of sufficient interest to your readers, you will oblige me by inserting them in your valuable journal. They were collected, with many others, in the wards of M. Louis, at the Hôpital de la Pitié, in Paris, during the early months of the present year. I have chiefly selected those cases which were the subject of clinical remarks.—I remain, sir,

Your obedient servant,

HENRY CURLING.

1, Mount Place, London Hospital,
September 3d, 1837.

CASE I.—*Pleuropneumonia—Absence of the characteristic Sputa—Recovery.*

A druggist, aged 48, of a strong constitution, was admitted into Salle St. Paul, February 28th. He was taken ill on Sunday evening (26th inst.) previous to which time he was in perfect health. On Sunday morning he felt quite well, his appetite was as good as usual; but about nine in the evening he had a shivering fit, after which he became very hot. He went to bed and passed a restless night. He went out, however, as usual, the next morning, at six, A. M., but was obliged to return, on account of another rigor, accompanied with an acute pain in the side. Soon after, his breathing became difficult, and he was troubled with a cough. The pain was increased yesterday, but has diminished since. His sputa, on the 27th, were quite red. He came to the hospital in a coach, and suffered much from the pain, and was very cold. At his admission his pulse was 108, and full; respirations 34 in a minute.

Venæsectio. ad. \mathfrak{z} xvj.

March 1st. — Countenance injected—alæ of the nose dilate considerably at each inspiration; tongue white and moist; sore throat, swallows with difficulty; blood covered with a thick, buffy coat; sputa greenish, semitransparent, but none of a rusty tint; respirations 44, pulse 80; percussion loud anteriorly; on the right side, posteriorly percussion obscure in the middle third, and completely dull in the in-

ferior third; the dulness extends in width from a perpendicular line, dropped from the axilla to the vertebral column. Bronchophony and bronchial respiration to the same extent. In some spots a cavernous respiration and gargouillement are heard; in others, after a full inspiration and coughing crepitation. Anteriorly the respiration is pure and vesicular. The pain extends from the sternum to the vertebral column.

Venæsectio ad \mathfrak{z} xvj. To be cupped to \mathfrak{z} vij. Antimonii Tartarizati, gr. vj. in die sumenda.

2d.—The pain was less after the bleeding, but he felt most relieved by the cupping; coagulum covered by a thin buffy coat; pulse 88 to 92; 28 respirations. Vomited after the second dose of emetic, and has had several stools; local signs the same.

Antimon. Tartariz. gr. iv.; Syr. Papanis, \mathfrak{z} ss. in die sumenda.

4th.—Took yesterday eight grains of tartar emetic; pulse 84; respiration calm; no stool; no vomiting; has not perspired. Posteriorly the chest, in its middle third, sounds well upon both sides. Inferiorly, on the right side, there is complete dulness; in the middle third, bronchial respiration and bronchophony; none in the inferior third, and no râle of any kind.

Antim. Tartariz. gr. viij.

He continued to take the antimony till the 7th instant, when it caused considerable nausea. On the 6th instant his pulse in the evening was 96, and the respirations 20. Percussion was still completely dull in the inferior third, but little bronchophony and bronchial respiration could be heard. There was a little bronchophony in the middle third, but no crepitation.

His convalescence was rapid; but to the day he left the hospital (March 23) percussion was dull in the inferior third.

Remarks.

The local symptoms were not developed in this case till twelve hours after the shivering and increased heat, affording an instance of a local affection being preceded by a general disturbance of the system. If particular inquiries were made into the order in which the various symptoms of acute inflammatory affections appear, this would be found frequently to happen. Nor is it contrary to what we should expect, for the greater number of diseases occur without any appreciable cause. It is true that patients generally attribute inflammations of the contents of the chest, &c. to being exposed to cold or wet, or currents of air; but generally speaking, very incorrectly so, as a minute interrogation of the patient will prove. These

phenomena seem to indicate the existence of some concealed cause, which has been acting slowly on the system, and first manifests itself by general symptoms before attacking any particular organ. Laennec says that the Russian, who rolls himself in the snow after coming out of the hot bath, or the baker who goes from his heated oven, almost naked, into an atmosphere of a temperature below zero, is not liable to attacks of pneumonia; while the porters, whose occupation leads them to stand for a length of time at the corners of the streets, are more frequently affected by it.

The dulness upon percussion in this case would seem to indicate that a very considerable portion of the lung was hepatized. M. Louis is of opinion that the dulness is partly due to the existence of old false membranes. It is rare to see so large a portion of the lung hepatized, and the general symptoms are not in proportion. The dulness, too, occupies only the posterior part, and the bronchial respiration is very superficial, and there is absence of ægophony—phenomena which could not be accounted for by the existence of an effusion. When adhesions exist partially between the pleura, it is always posteriorly that they are found, very rarely anteriorly; and the dulness existed inferiorly when the patient left the hospital.

CASE II.—Pneumonia of the Right Side—Absence of the characteristic Sputa—Death.

A woman, aged 77, was admitted into Salle St. Charles, under M. Louis, January 23d.

She states that eight days ago, whilst running, she fell down, since which time she has had a constant pain in the inferior part of the right side, and her cough has increased, so as to confine her to her bed. Her breathing has been short for six years, and she constantly has a cough. Upon her admission there was considerable dyspnoea, and her pulse was 108; she was bled to $\frac{3}{4}$ xiv.

January 24th.—Feels relieved by the bleeding; countenance aged, but natural; the pain continues, and hinders her from coughing; lips violet; 36 respirations; tongue moist; thirst; anorexia; pulse 96, regular, but weak. Percussion dull in the three inferior fourths of the right side; bronchial respiration and bronchophony to the same extent; no crepitation; on the left side the respiratory murmur is feeble, but normal; anteriorly, the respiratory murmur is louder under the left clavicle than on the opposite side; a single transparent sputum, of a yellow hue.

Six cupping-glasses to be applied.

Antim. Tart. gr. vj.; Syr. Papaveris, $\frac{3}{4}$ j.; Aquæ Lauro-Ceras. $\frac{3}{4}$ j. To be taken during the day.

25th.—Less pain and cough; no expectoration; has not vomited; three stools; pulse 104, irregular, small, and feeble. Gargouillement heard in the throat when the patient coughs. Percussion loud anteriorly; posteriorly, percussion is dull on the right side to within two inches of the shoulder; crepitation on the right side inferiorly, but not constant; on the left side, respiration natural.

Antimon. Tartariz. gr. iv.

From this time the patient gradually became weaker, and died on the 28th inst. I was not present at the autopsy, but I ascertained that the inferior lobe of the right lung was found hepatized, and that no other lesion of consequence existed.

Remarks.

The diagnosis in this case was entirely founded upon the stethoscopic signs. On the first day, from the absence of crepitation, it might have been mistaken for pleurisy; but there was no ægophony, and the effusion would have most likely masked the respiratory murmur. But another symptom upon which M. Louis founded his diagnosis was the great depression of strength, which is rarely present in pleuritic effusions, though of great extent.

Dr. Addison, in some observations on the diagnosis of pneumonia, says, that he has very frequently met with cases in which there was neither cough nor characteristic expectoration, and that they were very far from being limited to old persons, or what are termed complicated cases; and he believes that such cases are very often overlooked in young persons. Case I. would seem to bear him out in his assertion.

M. Louis has very rarely found them absent in acute pneumonia, except when it occurs in old people, or complicating other diseases. Dr. Addison also states, "that of all the symptoms of pneumonia, the most constant and conclusive, in a diagnostic point of view, is a pungent heat of the surface." M. Louis has always observed the heat to be greater in fever than in inflammation of the lungs; and yet it is by this sign we are to distinguish it from the former disease.

Within a period of three months about thirty cases of pneumonia were admitted into M. Louis' wards. Case I. was the only one in which the characteristic sputa were absent, in a young and healthy individual; thus corroborating Laennec's accurate remark, "that the character of the expectoration is much more marked in certain epidemic constitutions than in others, and particularly so in the catarrhal epidemic denominated the *grippe*." It was at this time (January, February, and

March) that the influenza was so prevalent in Paris.

Van Swieten and Cullen laid it down that absence of bloody sputa was a bad sign; and so it is, for it is chiefly in old persons that this happens, and in them the disease is most fatal, as exemplified in Case II.; but Case I. proves that it is not necessarily fatal, as they supposed.

CASE III.—Pneumonia—Absence of all Local Signs—Recovery.

A woman, aged 48, of a strong and sanguineous constitution, by trade a shoemaker, was admitted a patient, February 13th.

A fortnight ago she had an attack of the influenza, which confined her to her bed for four days. She had, however, entirely recovered, her appetite having returned, when, on the 9th instant, whilst walking in the streets, she was seized with a shivering fit, and a pain under the right mamma, which has continued to the present time, accompanied with nausea, vomiting, cough, and dyspnœa. Upon her admission into the hospital, there being considerable fever and dyspnœa, and the expectoration having a rusty colour, she was bled to $\bar{3}xij$.

Feb. 14th.—Not relieved by the bleeding; countenance injected; voice unaltered; heat of skin increased; pulse 120, full and hard; headache, the pain principally confined to the forehead. Expectoration viscous, of a citron colour, in some places greenish, and containing but few air-bubbles. Percussion equally loud on both sides, anteriorly and posteriorly; the respiration feeble and embarrassed on the right side; chest dilates equally on both sides; lies with greatest ease on her left side; is subject to catarrh, during which she has often expectorated blood, and suffered from a pain in the side, but almost always in the left side.

Low Diet. V.S. ad $\bar{3}xiv$.

15th.—Blood covered with a buffy coat. Feels better, but suffers still in the right side; expectorates with greater facility; crachoir filled with a clear liquid of a greenish yellow tint; pulse 100; auscultation gives the same result as yesterday.

Antim. Tart. gr. vj. to be taken during the day in six doses.

16th.—Has not vomited; fifteen stools; pulse 84; twenty-eight respirations; very little pain in the right side; a single sputum in the crachoir, of a citron colour.

Rep. Ant. Tart. gr. vj.

17th.—Has vomited three or four times; eight stools; dyspnœa much less; slept well; pulse 74; skin moist; respiratory

murmur of the same intensity on both sides; no râle.

Rep. Ant. Tart. gr. iiij.

18th.—Has vomited once; pulse 72; ten stools since yesterday; less expansion of the right side of the chest than of the left.

Omit. Ant. Tart.

The dyspnœa diminished every day, but the sputa continued to have a citron hue until the 20th inst.

On the 23d she was discharged.

Remarks.

In this case "the obtuse and deep-seated pain in the chest, dyspnœa, hurried respiration, cough, and peculiar expectoration," were all present, but no local signs existed. Are we to conclude, then, that pneumonia did not exist?

M. Louis did not hesitate in declaring it a case of pneumonia, agreeing with Andral, that the characteristic sputa alone suffices to declare the nature of the disease. These cases are far from being rare: M. Louis thinks he meets with them as often as 1 in 10. They depend upon a very small portion of the lung being affected, and that deeply situated.

M. Andral, in his *Clinique Médicale*, mentions two fatal cases in which the absence of the local signs was accounted for by the root and internal surface of the lung being the parts inflamed.

CASE IV.—Pneumonia—Absence of Local Signs—Recovery.

A man, of strong constitution, aged 57, was admitted a patient under M. Louis, February 23d. On the 18th instant he was taken ill with shivering pain in the right side, cough, anorexia, and thirst. He says his sputa were of a rusty colour, and he has kept his bed since the 19th.

February 24th.—Pulse 86, full, and regular; skin hot; thirst; tongue greyish, and moist. Yesterday evening his pulse was 96; sputa liquid, and moderately viscous,—many of a rusty colour and demi-transparent; percussion loud,—perhaps a little more sound on the left side; after a strong inspiration, doubtful crepitation at the inferior angle of the right scapula, but not heard after coughing.

Low diet. Venæsectio ad $\bar{3}x$.

25th.—Blood covered with a thick buffy coat, and the coagulum very firm; a single sputa, of a yellow tint; pulse 72, regular; tongue moist; a little less sound on the right side posteriorly; in the inferior third, respiration a little harsh; a little mucous râle, but no crepitation, but not heard after coughing.

Pulv. Digitalis, gr. i. nocte sumend.

26th.—Sputa tinged with blood, but not of a rusty colour; a little fine crepitation on the right side inferiorly.

Pulv. Digitalis, gr. ij.

On the 27th the respiration was pure, and on March 2d he left the hospital convalescent.

This case is very similar to the preceding one: there were no local signs developed the first day. Most probably a very thin portion of lung was affected.

Both these cases are examples of the local being by no means in proportion to the general symptoms.

CASE V.—*Pneumonia of Superior Lobe—Absence of General Signs—Death.*

A woman, aged 54, was admitted into Salle St. Charles, under M. Louis, February 21st. She states that she had been ill fourteen days, but has only kept her bed during the last three or four days. She was first attacked with cough, pains in the limbs, and headache.

February 22d.—Answers questions very imperfectly; pulse 116, regular; thirty-six to forty respirations; sputa consist of a whitish mucous fluid, of the consistence and colour of a solution of gum, without any yellow or rusty tint. Was bled last night to ℥xiv . and felt relieved by it; coagulum covered with a buffy coat; no stool for six days; has taken no medicine; has had no pain in the side; a dull sound under the right clavicle for about one inch,—on the left side, percussion loud; posteriorly on the left side, and in the inferior portion of the right side, respiration vesicular, and percussion loud; in the right infra-spinal fossa, a dull sound; bronchial respiration and bronchophony; more inferiorly, crepitation; the voice resounds in the middle portion, but percussion is not completely dull.

Antimon. Tartariz. gr. ij. to be taken in six doses every hour.

Venæsectio ad ℥x .

23d. — Speech unintelligible; tongue dry; pulse 108, regular, and contracted; has vomited, and had several stools; blood not buffed; forty respirations. Percussion dull in the superior three-fourths of the right side; other signs remain the same.

Rep. Antimon. Tartariz. gr. iv.

Venæsectio ad ℥x .

24th. — Cannot protrude the tongue; lips dry; tongue dry, and covered with a brown crust; speaks with difficulty; pulse 100, regular. Percussion dull in the inferior four-fifths; a very loud râle, almost a bruit de râpe, heard inferiorly; no cre-

pititation; passes her fæces in bed, but is conscious of it.

Antimon. Tartariz. gr. ij.

From this period she gradually became weaker. Bark and wine were administered, but she died on the 27th.

No autopsy was permitted.

Remarks.

It is in such cases that the knowledge of auscultation proves so useful, for without its aid it would be impossible to detect the nature of the disease. The percussion being dull both anteriorly and posteriorly, rendered the prognosis fatal at the commencement, as it showed that the lung was inflamed to a considerable depth. It is in old persons generally that the superior lobe is attacked; and this explains Andral's observation, that inflammation of the superior is more fatal than of the inferior lobe. Case II. affords an instance of fatal inflammation of the inferior lobe in an aged individual.

[To be continued.]

ON THE
DIVISION OF THE TENDO ACHILLIS
FOR CLUB-FEET.

IN the MEDICAL GAZETTE for the 2d inst., an excellent and practical paper was inserted from Mr. Whipple, on the treatment of club-foot by division of the tendo Achillis. The following information in relation to it is from the report read by M. Emery to the Royal Academy of Medicine in Paris, on August 12th, upon the method adopted by M. Bouvier in similar cases.

The operation was first performed by Lorenz, a surgeon at Francfort, who, as appears from the case published by Thilenius in 1789, divided the tendo Achillis of a girl of 17, in 1784. He made a cut through the integuments and tendon from behind forwards, and the heel descended more than two inches. A bandage was immediately applied, and the wound was closed in six weeks.

Next it appears a Dr. Michaelis, of Marbourg, adopted a similar proceeding; but he only partially divided the tendon, leaving the rest to be gradually extended. In one case, where there was an inclination of the foot laterally, he divided the tendon of only the tibialis anticus. Another plan was invented by Sartorius, of Nassau, in 1812; he made an incision along the back of the tendon, opened its sheath, and then divided it from before backwards on a director, and applied the apparatus immediately.

Delpech was the first who recommended the division of the tendon without dividing the skin over it; and he first applied this plan in 1816, plunging a narrow bistoury before the tendon through the leg, so as to cut the skin for about an inch on each side, and then dividing the tendon with a convex-edged bistoury, without dividing the skin behind it. He then kept the foot *extended*, that the ends of the tendon might unite, and did not attempt flexion, and the stretching of the bond of union, till the 28th day. This last proceeding was very painful, and was attended with difficulty, the wounds not healing for more than three months; however, twenty years after, M. Bouvier found the patient walking very well.

This plan was not satisfactory enough to be imitated, till, in 1833 and 1834, Stromeyer, of Hanover, published six cases of division of the tendo Achillis, with a modification of the plan of Delpech. Instead of making two long incisions by the sides of the tendon, he used a narrow knife with a convex cutting edge, which he plunged in in front of the tendon, with its edge backwards, and just pierced with its point the integuments on the opposite side. He then divided the tendon alone, and commenced to flex the foot on the tenth day in adults, and the fifth in children. In one case he divided also the tendon of the flexor longus pollicis, and in another the tendon of both the flexor and extensor of the great toe.

The method of M. Bouvier, who first operated in 1835, coincidently with M. Duval, consists in making but one opening in the integuments, and that on the inside, so as to admit a very fine probe-pointed bistoury to pass across in front of the tendon, while the foot is moderately flexed. He then, with the convex edge of this bistoury, cuts across the tendon, and immediately applies the apparatus for maintaining the foot in a state of complete flexion. In one case he divided the tendon from behind forwards. The advantages of his mode are stated to be, that but very little of the cellular tissue surrounding the tendon, which he considers to be of great importance in the process of reproduction, is divided—that the pain is the least possible—and that, from the few vessels divided, there is very little subsequent ecchymosis. The immediate employment of the apparatus to maintain the proper position is less painful, and more certain and rapid in its results, than when it is left for several days, and there is no danger of the parts left between the separated ends being unable to effect the reproduction of the necessary firm tissue. The certainty of their capability to do this is

proved by the cases of Lorenz and Sartorius, and by numerous cases in which a considerable portion of the tendo Achillis had been lost, and yet complete recovery had taken place: in support of this, he cites cases published by Molinelli, in the "*Mémoires de l'Académie de Bologne*;" others cited from Clement, a surgeon at Avignon, by Paul, in his "*Supplément aux Institutions Chirurgicales d'Heister*," and experiments by Boin, of Dijon, published in 1769, which prove, with observations of his own, that the formation of the new tendinous substance is due to the surrounding cellular tissues, from which material is effused into the canal which the separated ends of the tendon had occupied, so as at last to obliterate it, after which it is gradually converted into a solid tendon of fibrous substance.

It will be seen that Mr. Whipple's method resembles most that adopted in one case (the last of his four) by M. Bouvier, of whom, however, he has the priority of invention by more than a year, and, on the whole, we think the operation of our correspondent the neatest of the two, especially in the gradual flexion of the foot, which he makes use of so as to keep the tendon tense against the edge of the knife, which is passed behind it while relaxed.

As regards the reproduction of the tendinous substance, M. Bouvier would have found full evidence of all he has ascertained, by referring to Horner, *Philadelphia Journ.*, and *Lond. Med. and Phys. Journ.*, December 1827; Pauli, *Comment. Physiologico-anatomica de Vulneribus Sanandis*, Götting. 1825; E. Sandifort, *Thesaur. Diss.* vol. iii; Murray, *Comment. de Redintegratione Part. Corp.* Götting. 1787; Meckel, Moore, and some other works on the healing of wounds.

CASE IN WHICH THE URINE WAS DISCHARGED FROM VARIOUS PARTS OF THE BODY.

THIS occurred in a young woman of 24, who had for many years been in delicate health, and subject to nervous affections, which were remarkably increased about three years since by a fall on the front of the head, after which she was bled by mistake to 4lbs. After paralysis of the lower extremities, which was ultimately cured by *moxæ*, she was attacked, in consequence of great mental emotion, with her old spasmodic affection, and what the author calls a spasmodic retention of urine, which continued for more than 14 days, the secretion meantime passing off at different parts of the body. She was for some time affected with pains in the

loins, and along the course of the ureters, burning pain in the hypogastrium, thirst, alternations of heat and cold, restlessness, small, weak pulse, loss of appetite, &c. which increased daily, till she was relieved by vomiting a great quantity of a thin clear, yellow, slightly urinous-smelling fluid. From the bladder only very small quantities could now and then be drawn off with a catheter, and this with only a very slightly urinous smell. Diuretics and antispasmodics were given, but the symptoms had returned and increased till the 14th day, when the vomiting continuing copiously, the patient began to complain of a pricking sensation in the axillæ and breasts, which latter were evidently swollen. External warmth was applied with evident relief; and there now took place a copious flow of a colourless fluid, with a urinous smell, from the nipples of both breasts, which continued for nearly two days, but then suddenly ceased, and appeared at the navel, at which it had been preceded by pain, pricking, &c. The evacuation here, however, was far less copious, and ceased after a few hours. Next a similar flow of fluid took place from the skin of both legs, from which a clear liquid ran, as in a profuse sweat, while the rest of the body was perfectly dry. This, however, did not last long, but the discharge from the breasts and navel continued in varying quantity, no urine passing through the urethra. At last, after great pain and swelling of the abdomen, a very large quantity of dark highly smelling urine passed from the bladder, and the patient was exceedingly relieved. Very soon after this she seemed quite restored from all her former symptoms, and a natural flow of urine continued. From this time she was affected with various strange symptoms: she passed some worms; then her catamenia becoming irregular, she had bleeding from the mammæ and umbilicus, and on two occasions a small quantity of clear fluid flowed from the former, but she had never any repetition of the retention of urine.—*Dr. Lyncker, in Casper's Wochenschrift, No. 16.*

RETARDED FORMATION OF THE PIGMENTUM NIGRUM.

THE following case, by Dr. Herzig, of Marienbad, proves the possibility of the pigmentum nigrum being produced in eyes congenitally albinoid. Johann Hofer was born, as several eye-witnesses assured the author of the case, with completely red iris and pupil, but the colour gradually diminished. At 17 years old, when Herzig saw him first, the pupil was dark red, the iris very light blue, nearly white,

with red glimmering as it were through it, and rays of deeper blue. The globe was in constant motion, and the patient very near-sighted, and irritable to light. The hair, eye-brows, and eye-lashes, were soft, snow-white, and just as at the time of birth; and the skin over the whole body was extremely delicate and white. At the present time Hofer is 19 years old; the pupil is brown, and the redness is no longer visible through the iris, which is itself very light blue; the hair has still the same colour. His sight is remarkably improved. His mother had brown eyes and hair: his father, a healthy powerful shoemaker, and a younger brother, have light-blue eyes, and light-brown hair, which in the latter was not long since of a bright blond-colour. His father and his two sisters had hemeralopia when they were young.—*Schmidt's Jahrbucher; Juli, 1837.*

ON THE PRESERVATION OF BODIES FOR DISSECTION.

THE Academy of Sciences, in Paris, has decreed a prize of 8000 francs to M. Gannal, for his method of preserving bodies for dissection. The process consists simply in injecting an aqueous solution of an aluminous salt by one of the carotids: some pints are sufficient; after it the body may be preserved exposed to the air for a long time without putrefaction, and sometimes at last dries, and is mummified. He uses acetate of alum, prepared from the acetate of lead and sulphate of alum and potash; and five or six pints, of a strength that will mark 18° on Beaume's areometer*, are sufficient to preserve a body for five or six months.

He has also used simple sulphate of alum for procuring the acetate. With one kilogramme of common sulphate of alum, in lumps, 250 grains of acetate of lead, and two pints of water, a mixture may be obtained sufficient to preserve a body four months; or common sulphate of alum alone will make one keep for two months.

The Commission has reported not only according to what it had itself seen, but has taken the opinion of persons better practised in such things than themselves; and the answer was unanimous, that by the proceeding above mentioned, bodies may be preserved, without smelling, for a month, six weeks, or more, according to their previous condition, the state of the atmosphere, &c.; and that consequently this is a discovery of considerable importance to those engaged in dissecting,

* This is equal to a specific gravity of about 1.140.

removing entirely all that is disagreeable in that study, and all that is perhaps insalubrious, and enabling them to prolong with safety their dissections of the more minute parts.

M. Gannay himself regards the method as fully sufficient for all purposes of embalming, but on this the Commission have declined reporting, as it would require many years of observation before they could testify its applicability to the purpose of such long conservation of the dead body.

MEDIATE AUSCULTATION IN CALCULOUS AFFECTIONS.

At a sitting of the Academie des Sciences, on the 31st of July, M. Leroy d'Etiolles presented an instrument for discovering the presence of a stone in the bladder with more certainty than when the sound is permitted to be lost in passing through the air to the ear, as with the common catheter or sound. It consists of a plate of ivory, against which the ear is applied, and which is adapted to the end of a sound by a flexible caoutchouc tube, such as is used in fumigations. This method, he says, is far more convenient than the mere adaptation of a part of a stethoscope to the end of the catheter, as practised by MM. Moreau de St. Ludger and Behyer; but these latter, at the next sitting, presented a letter, stating that their method was quite sufficient for the purpose.—*Gazette Médicale*.

APPARATUS FOR PREVENTING ASPHYXIA.

At the meeting of the Institute of France, on the 21st of August, 8000 francs were decreed to M. Paulin, for an apparatus to enable persons to descend into places where the atmosphere was irrespirable, whether to recover others who had fallen into them, or property in cases of fire, &c. It consists of a leathern air-tight loose dress, covering the head and trunk (with glass in front to see through), and connected with a long tube, through which atmospheric air is pumped by assistants for the supply of the lungs of the person who goes into the asphyxiating medium, and of a lamp, which he carries on his chest, and which is connected with the cavity between his dress and his person. This cavity is sufficiently large to contain, when full, enough air to support respiration for six or eight minutes. From the more detailed description given in the report, this seems to resemble very closely the dress in which Mr. Dean has been for some time in the habit of going under water, searching for the stores of wrecked ships.

LOCAL MANIFESTATIONS OF INTERMITTENT FEVER.

THE wife of a citizen of this place (Muhlheim, on the river Rhuhr), of a very delicate constitution, and hectic make, whose life had been preserved by an attention to diet, which hope and the love of life, so common in the hectic, alone could render endurable. She had been for many years the subject of medical treatment, particularly in spring and autumn, at which times she felt herself oppressed with a dry cough, accompanied by stitches in the side. When the period of puberty arrived, she suffered much from irregular menstruation, which came on sometimes in too great abundance, sometimes in too small a quantity, sometimes too early, and sometimes too late; this impaired her strength very much, and caused congestion to the head and chest.

The approach of her courses announced itself, for many years, by a painful prickling sensation in the right hip and right arm, to which a disabled condition of this side usually succeeded, but disappeared again on the appearance of the catamenia.

These sufferings, to which she was now accustomed, returned in the autumn of the year 1836, with greater violence than ever, and continued throughout the entire winter, on account of difficult menstruation being superadded, and as yet (May, 1837), that state has not been entirely removed.

In the month of February of this year, at the period when influenza raged, this woman was also attacked by it. After a few days the disease changed into a very extraordinary quotidian fever, which developed itself first in the left, and afterwards in the right arm. When the patient related to me this unusual affection, I was not a little astonished at the occurrence, and that I might not be deceived, I carefully put many questions to her, and caused her to tell her complaint many times over, before giving her my opinion.

The paroxysm displayed itself in the following manner. In the morning, between 10 and 11 o'clock, soon after taking her breakfast, she had an inclination to yawn frequently, followed by a trembling of the left arm; by degrees the left arm, from the acromion to the finger points, became colder and colder, and at last as cold (as the patient expressed it) as if her arm had been immersed in cold water; it also exhibited the appearance known by the appellation of goose-skin, and the nails and fingers became blue.

This local rigor was sometimes so violent, that the arm was sometimes involuntarily jerked from one place to another: when it had lasted about an hour, it passed into the hot stage, which lasted

fully two hours; after this an abundant perspiration followed, which extended itself in a modified degree, some time after, over the entire body. The first two attacks of this local fever were slight, and not much noticed by the patient; but the third was so violent that she was greatly alarmed.

I visited her at the feverish period, and saw the rigor, goose-skin, blue nails, and violent perspiration of the left arm; no part of the rest of the body was in the slightest degree affected. To my great astonishment I found that there was no difference of temperature in the two arms; but the pulse displayed a very remarkable difference; for whilst in the left it was 90, hard, wiry, and small, that in the right was only 80, and soft. In the hot stage there was no remarkable difference in the pulses, and it was only in the sweating stage that that of the left wrist was accelerated, whilst that of the right continued as in the preceding stages. In the forenoon the urine was natural, but in the afternoon it contained a lateritious deposit. In other respects there was not any thing in the condition of the patient which seemed to depend, in the slightest degree, on the local fever in the arm.

When this person had taken sulph. quinquæ for two days, in small doses, the attack ceased, and she believed herself at length freed from her wearisome guest, when after three days her right arm began to be affected with the fever as the left had been before, and these attacks were five times repeated before they were entirely set aside by the use of quinine. Now, however, there occurred, towards three o'clock in the afternoon, after a slight rigor, with transient flushes of heat over the whole body, and particularly a burning in the hands, a general enfeebling perspiration, which was, however, gradually removed by the employment of adequately powerful means; and evidently these were rather to be considered as symptoms of the former cachectic condition of the patient, than as having any real connexion with the recently occurring local fever.

The fever described bears with it all the recognizable symptoms of a local fever, without exhibiting itself in any way as a masked fever. That there is an evident difference between a local and a masked fever seems put beyond all doubt by the case described. — *Dr. J. H. Leonhard, Muhlheim on the Ruhr; and Dublin Journal.*

SOLID NITRATE OF SILVER IN GONORRHŒA.

To the Editor of the Medical Gazette.

SIR,
THE tone of a late communication in your valuable journal, by Mr. Joseph Bell,

on the use of the nitrate of silver, is so unlike what your readers have hitherto been accustomed to, that I should have left the manner of that paper to correct the matter of it, had I not perceived in it several grave accusations of bad faith and deception with which Mr. Bell has charged me; and this circumstance alone compels me to solicit the insertion of the following remarks before I leave the shores of Britain for my native country.

In the first place, I beg to lay before your readers a distinct comparative statement of the transactions of the Glasgow Lock Hospital, during the first and second half years of 1836:

Patients remaining in the House, Jan. 1st, 1836		24
Admitted, from June 1st to June 30th (inclusive,) 1836		137
Treated, during the first half year of 1836		161
Dismissed, cured.....		132
Irregular		2
Died		2
Remaining in the House, July 1st, 1836		25
Admitted, from July 1st to Dec. 31st, 1836, (inclusive)		130
Treated, during second half of 1836..		155
Dismissed, cured.....		128
Dismissed, irregular		6
Died		6

From this statement, carefully extracted from the journal and roll-book of the house, your readers will perceive the mode in which Dr. Hannay's numerous dismissals are accounted for. Of the patients dismissed "irregular," five had been treated by the solid nitrate for "vaginal discharge." All of them were dismissed very shortly after the first application. One of them (M. H., p. 266) for "feigning excuses to procure exit;" and two others (J. M'L., p. 269, and M. M'K., p. 276) for "refusing to submit to treatment." From which it appears that the nitrate is not so great a favourite with the patients as with Dr. Hannay. It will also be perceived that the number treated during the six months when Dr. Hannay did not have the charge, was 161 instead of 159, erroneously stated by Mr. Bell. Of the 161 patients treated during the first half of 1836, two died; and of the 159, treated by Dr. Hannay, six died, all of whom are added, by Mr. Bell, to the list of dismissals, that gentleman omitting to mention that they were dead. Mr. B., by this novel and ingenious mode of recording the Hospital transactions for 1836, keeps out of view the evidence of the severity of the treatment, and the amount of mortality, while,

at the same time, the residence of patients in the house seems shortened, the cost of each diminished, and the treatment made to appear more than usually successful. The number of beds in the hospital is at present 31, to which number, for the last two years, the secretary has restricted the admission of patients, unless in the case of a mother and her infant.

[Here follow the details of a number of cases, with references to the dates and pages of the hospital book. We can only make room for the conclusions.]

From this examination of fifty-nine cases taken at random from the journals, it is evident:—

1st. That in fourteen per cent. nearly, the nitrate was *aided* by one of the best known injections, viz. "*Sol. Alum. co.*"

2d. That there are 22 per cent. of relapses, most of them recorded from Dr. Hannay's dictation.

3d. That in more than 14 per cent. considerable pain or irritation followed the application, as also recorded from the dictation of Dr. H.

I have the honour to remain, sir,

Your most obedient servant,

JAMES M. CUNE SMITH, M.D.

Glasgow, July 11th, 1837.

MEDICAL AGENTS.

To the Editor of the Medical Gazette.

SIR,

Now that the time is approaching when numbers of young men are about to enter upon their professional studies in London, and when many, having passed the ordeal of their examinations, are about to throw themselves upon the world in the expectation that having entered an honourable profession they may pass through life as useful members of society, it may not be amiss to guard them against certain snares which are laid for those who, having small means, are naturally anxious to turn them to account by commencing practice as soon as possible; and I am sure, sir, that you, who always act with an impartiality which has gained for your periodical a degree of success which such conduct could alone secure, will second me in my endeavours to protect the young and unwary from deceit and fraud.

There are in London a class of people who style themselves "Medical Agents," who advertise practices for sale, and pretend to find out desirable places for assistants.

There are only certain hours when these

gentlemen can be personally communicated with; and previous to being introduced in *propria personâ*, you are ushered into a dark and dirty room, designated, by large letters on the door, "Waiting Room," (which, however, is generally empty,) where, after contemplating for some time the bright prospects in future, a boy (in livery of course) leads the way through various winding passages, till at last you behold the great man himself. Before such undoubted authority, and so great a dispenser of benefits, the humble inquirer bows with meekness, and begins at once upon the object of his mission. Of course—every thing is "highly respectable," and it is "a most favourable opportunity;" but when the question is asked, whether the gentleman will allow any time to have an opportunity of becoming acquainted with the practice? the answer is, "Oh, no, sir; the party is a man of so much character and such undoubted veracity, that if you are inclined to treat, you must do it immediately." Such being the case, the affair, if you have any prudence, is declined, when you are very significantly told, "*there is such a thing as being too scrupulous.*"

The house is generally in an unfrequented by-street, through an obscure court, and the whole business is so dismal, and wrapt in so much obscurity, that it gives one exactly the idea of visiting a fortune-teller, as described in some of our novels.

By bringing to light, through the medium of the MEDICAL GAZETTE, the mysterious ways of these medical agents, you will confer a great benefit on the profession generally, and greatly oblige your constant reader, and

Most obedient servant,

M. R. C. S.

London, Sept. 5, 1837.

COX'S EDITION OF SIR A. COOPER'S LECTURES.

To the Editor of the Medical Gazette.

SIR,

WILL you permit me, through the medium of your widely-circulated journal, to make the following complaint. Some time ago I purchased two volumes of a new edition of Sir A. Cooper's Lectures on Surgery, published by Mrs. E. Cox, of St. Thomas's-street, Borough, on the faith of a prospectus, which promised that this should be the most complete edition of Sir Astley's Lectures hitherto published. I have now

had the second volume in my possession some months; but as yet not the slightest notice has been given to the public as to when the third and concluding volume will appear: in fact, they are so taciturn upon the subject, that I begin to suspect they have no intention of completing the edition.

Now, sir, as I purchased two volumes, on the faith that the work should be completed, I contend that they are bound to do so, or to return the money to those who may not feel inclined to retain an imperfect work in their library. I therefore ask the publishers whether they intend to complete this edition of Sir A. Cooper's Lectures, and when the concluding volume will be published?

Instead of appealing to a legal tribunal, I have preferred submitting the question to the bar of public opinion, fully convinced that whatever the verdict may be, it will be founded on the merits of the case, and not on legal technicalities.

VINDEX.

Aug. 28, 1837.

GUY'S HOSPITAL.

DR. ADDISON has, as a matter of course, succeeded Dr. Cholmondely as physician to Guy's Hospital; and on Wednesday last Dr. Babington was appointed assistant physician in the room of Dr. Addison. Great exertions were made by the friends of Dr. Hodgkin to secure the office for him, and a considerable number of medical students—not connected with the hospital—signed a letter or memorial in his behalf. We are not prepared to deny that there may have been something in the circumstances to justify this step, but as a general rule it is certainly to be deprecated, even although in favour of such a candidate.

LIFE INSURANCES.

[THE following circular has been sent to us from Leeds.]
The medical practitioners of Leeds and the neighbourhood, having been repeatedly referred to by Insurance Companies to give replies to series of questions relative to the health of individuals who have been placed under their medical treatment, and who are applicants for Policies of Insurance, have resolved—
“That for the future they will return unanswered such communications, unless they be accompanied by a suitable professional fee from the office, considering that the Insurance Company is the party benefited by the information thus obtained.”
Leeds, July 1837.

NEW MEDICAL BOOKS.

An Introduction to Hospital Practice, in various Complaints: with Remarks on their Pathology and Treatment. By C. J. B. Aldis, M.D. 8vo. 5s. 6d.
John Hunter's Works, vol. III., 8vo. with a fasciculus of Plates, 4to. 17s. 6d.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.
Thursday, Sept. 7, 1837.

Joseph Peplow, Wellington, Salop. — Charles Orton, Leicester. — Edward Caie Tyte, Pinner, Middlesex. — Richard Tomkinson, Cheadle, Staffordshire. — James Brooks Easton, Plymouth. — Kester E. Knight, Chichester. — Gillies Calder, Manchester.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Sept. 5, 1837.

Age and Debility	30	Hydrophobia	1	
Apoplexy	3	Inflammation	45	
Asthma	8	Bowels & Stomach	4	
Cancer	2	Brain	1	
Childbirth	1	Lungs and Pleura	4	
Consumption	50	Influenza	2	
Convulsions	39	Insanity	8	
Croup	2	Jaundice	1	
Dentition or Teething	18	Liver, diseased	2	
Diarrhœa	8	Measles	19	
Dropsy	13	Mortification	1	
Dropsy in the Brain	17	Paralysis	4	
Epilepsy	1	Rheumatism	2	
Erysipelas	1	Small-pox	6	
Fever	5	Stricture	1	
Fever, Typhus	2	Thrush	1	
Hæmorrhage	3	Unknown Causes	9	
Heart, diseased	5			
Hooping Cough	16	Casualties	2	
Decrease of Burials, as compared with } the preceding week }				89

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>Aug.</i>	THERMOMETER.		BAROMETER.	
Thursday . 31	from 34 to 61		29·42 to 29·38	
<i>Sept.</i>				
Friday . . . 1	35	61	29·34	29·38
Saturday . . 2	37	63	29·38	29·52
Sunday . . . 3	36	56	29·53	29·68
Monday . . . 4	39	59	29·78	29·85
Tuesday . . 5	30	63	29·77	29·90
Wednesday 6	32	62	29·94	Stat.

Prevailing winds, N.E.
Except the 31st ult.; afternoon of the 2d and 6th inst. generally cloudy, with frequent rain; thunder at times during the afternoon of the 1st, and vivid lightning in the evening.
Rain fallen, 1·25 of an inch.
CHARLES HENRY ADAMS.

NOTICES.

We are much obliged to the gentleman who sent us the Leeds circular: we had already received it.
Mr. C. has our best thanks for the Report which he so obligingly forwarded.
WILSON & SON, Printers, 57, Skinner-st., London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 16, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

BY JON. PEREIRA, ESQ., F.L.S.

LECTURE LXXIII.

Gamboge—continued.

I OMITTED to mention in the last lecture, when speaking of the physical qualities of gamboge, that a thin film of gamboge-emulsion is an excellent microscopic object for observing the *active molecules*, described by Mr. Brown in the *Philosophical Magazine* for September 1828 and 1829.

Detection of Gamboge.—Sometimes the detection of gamboge becomes an object of medico-legal inquiries, as in the trial of Joseph Webb, for manslaughter, at the York Assizes, 1834 (see *Frazer's Report*). A few remarks, therefore, may not be useless as to the mode of proceeding, more especially as the subject is not noticed by Dr. Christison.

To recognise gamboge in any substance supposed to contain it proceed as follows: digest one portion of the suspected substance in alcohol or rectified spirit, and another portion in rectified æther.

The alcoholic solution of gamboge possesses the following properties: its colour is orange-red; on the addition of water it forms a bright yellow opaque emulsion; if to this emulsion we add a few drops of liquor potassæ, the yellow colour changes to bright red, and the liquid becomes immediately transparent and forms characteristic precipitates with the following substances: with the acids, or salts of gold,

silver, palladium, lead, cobalt, or uranium, the precipitate is yellow; with the proto- or persalts of mercury, greenish yellow; with the chloride of manganese, orange-red; with sulphate of copper, brown; with the protosalts of iron, a very dark precipitate. The precipitates produced with these metallic salts are *gambogiates* of the respective metals.

The *ætherial solution of gamboge* has an orange-red colour: dropped on water, it forms, when the æther evaporates, a thin, bright, yellow, opaque film or scum, which dissolves in caustic potash, forming a transparent red solution which conducts itself, with the above-mentioned metallic salts, like the alcoholic solution.

The only substance which, from its external appearance, might be confounded with gamboge is the substance improperly called *Botany Bay gum* (Resin of *Xanthorrhæa Hastile*.) The yellow colouring matter of saffron, rhubarb, turmeric, or zedeory, may, under some circumstances, be confounded with that of gamboge. The action of the before-mentioned tests, however, readily distinguishes it.

Physiological effects: (a.) On animals generally.—The animals on which the effects of gamboge have been tried, are dogs, horses, oxen, sheep, and rabbits. From his experiments on dogs, Orfila inferred that it is a powerful local irritant; and that when applied to any of the animal tissues, its fatal operation depends, not on its absorption, but on its powerful local action, and on the sympathetic irritation of the nervous system. It appears to be an uncertain and dangerous medicine for herbivorous animals, and is, therefore, rarely or never employed by veterinarians. Daubenton states that two drachms killed a sheep. Two ounces and a half have been found to produce very little effect on a cow; while twice that quantity caused dysentery, which continued for seventeen days. On the horse, from six to twelve drachms have merely rendered the stools

somewhat softer, and more frequent than natural, although alarming constitutional symptoms were excited.

(b.) *On man.*—Taken in *small doses*, gamboge promotes the secretions of the alimentary canal and of the kidneys, and causes more frequent and liquid stools than natural. In *larger doses* it occasions griping pains of the bowels, watery stools, increased discharge of urine, and not unfrequently nausea and vomiting. In *very large doses* it vomits and purges violently, and produces all the other usual symptoms of gastro-enteritis. On examination of the body after death, the large intestines appear to have been principally affected. It is considered to act as an excitant to the vascular and nervous systems of the whole of the pelvic viscera.

Uses.—From the foregoing account of the effects of gamboge, it is very evident that it is a remedy well adapted for acting as a stimulus to the abdominal and pelvic viscera, either to rouse them when in a torpid state, or to give them preternatural activity, and thereby to relieve some distant organ, on the principle of counter-irritation. On the other hand, the use of gamboge is highly objectionable when there is an irritable or inflammatory condition of the bowels—a tendency to abortion, or to uterine hæmorrhage—and also when we do not want to promote or increase the hæmorrhoidal discharge. The following are some of the cases in which we employ it:—

1. In *dropsies*, especially ascites and anasarca, gamboge has been long celebrated. The *hydragogue pills* of Bontius, as well as the *purgatives* of Helvetius, owe their activity to this medicine. We employ it so as to produce watery stools, and an increased secretion of urine. For this purpose it is best administered in small but repeated doses, in order to avoid the vomiting caused by the exhibition of one full dose. To promote its hydragogue operation, jalap and cream of tartar are frequently associated with it. Its diuretic effect is to be promoted by conjoining alkalies; and thus we may give an alkaline solution of gamboge.

2. In *tape worm*, also, gamboge has been frequently employed, and, in fact, enters into the composition of some empirical anthelmintic remedies. Thus an important part of Madame Nouffer's treatment consists in the use of a drastic purgative, consisting of gamboge, scammony, and calomel.

3. In *constipation*, gamboge, associated with other purgatives, forms a most excellent remedy. For ordinary cases the *compound cathartic pills* (which contain, besides gamboge, calomel and scammony) of

the United States Pharmacopœia, is an excellent formula for its exhibition.

4. In *affections of the brain* (as apoplexy or a tendency to it), gamboge is sometimes useful given in full doses, so as to irritate the bowels and promote the alvine secretions, and thereby to relieve the head, on the principle of counter-irritation before explained.

Administration.—In this country, gamboge is invariably given *in substance*, either in the form of pill or powder. The full dose of it is from ten to fifteen grains,—but in this quantity it usually causes vomiting and griping; and, therefore, smaller doses, as three or four grains, are commonly exhibited and repeated every three or four hours. Exhibited in this way, gamboge acts effectually and safely.

The *compound pills of Gamboge* of the London, Dublin, and Edinburgh Pharmacopœias, contain aloes, ginger, and soap, besides gamboge: they are made from a formula of the late Dr. Fordyce. The aloes, by diminishing the solubility of the gamboge, renders it less likely to cause vomiting. The dose of these pills is from ten to fifteen grains. The *compound cathartic pills* of the United States Pharmacopœia, were intended “to combine smallness of bulk with efficiency and comparative mildness of purgative action, and a peculiar tendency to the biliary organs.” They consist of four grains of compound extract of colocynth, three of the extract of jalap, three of calomel, and $\frac{3}{4}$ ds of a grain of gamboge. The dose is five grains as a mild purgative, ten grains as a brisk cathartic.

In dropsical cases a solution of gamboge in carbonate of potash has been particularly recommended as a powerful diuretic. A compound of this kind has been long known by the name of *Tincture of Gamboge*. It consists of half an ounce of gamboge, one ounce of carbonate of potash, and twelve ounces of brandy: digest for four days. The dose is from forty to sixty drops.

Antidote.—I am unacquainted with any certain antidote for this gum-resin, when swallowed as a poison. The alkalies have been said to diminish the violence of its local action, and Hahnemann declares the carbonate of potash is an antidote for it; but these statements have not yet been established.

Our reliance must, therefore, be placed on the palliative measures recommended for some other acrid poisons, as euphorbium and elaterium.

SUB-ORDER CANELLEÆ.

Canella alba.

According to Clusius, the bark of this tree was first known about the year 1600;

the tree yielding it was first described by Swartz in 1788.

The *Canella alba*, or Wild Cinnamon tree, is a native of the West Indian Islands, especially Jamaica. It is a very tall tree, growing to the height of fifty feet. Its leaves are alternate, obovate, cuneate at the base, of a dark shining green hue. The inflorescence is a corymbus. The flowers are polypetalous and violet coloured. The plant belongs to class *Dodecandria*, order *Monogynia*, in the Linnean arrangement.

The inner bark of this tree is the *cortex canellæ albæ* of the shops. John Bauhin, and some subsequent writers, having confounded it with Winter's bark, it is sometimes called *cortex Winteranus spurius*. In Germany it has been termed *Costus dulcis*, and *Costus corticosus*. It occurs in quills or broken pieces, which are hard, of a yellowish or pale orange-colour, somewhat lighter on the internal surface; their odour is aromatic and clove-like; their taste acrid and peppery. From Winter's bark it is distinguished both by its physical and chemical characters: the most certain tests for distinguishing the two barks, are the sulphate of iron and nitrate of barytes, both of which cause a precipitate in the infusion of Winter's bark, but none in that of the bark of Canella.

The constituents of this bark, according to Petroz and Robinet, are as follows:—

An acrid volatile oil.
Resin.
Bitter extractive.
Canellin.
Albumen.
Gum.
Starch.
Salts.

The active constituents of this bark are the three first in the list. The substance termed *Canellin* is a saccharine matter analogous to Mannite, and, like the latter, is incapable of undergoing the vinous fermentation.

The effects of *Canella alba* are those of an aromatic—that is, it is a mild stimulant and tonic. It seems to rank between cinnamon and cloves, being weaker than the former, but stronger than the latter.

By the negroes in the West Indies it is used, we are told, as a condiment. In this country it is principally employed as an aromatic addition either to tonics or purgatives, in debilitated conditions of the digestive organs. Thus it is a constituent of the *vinum aloes*, and is associated with powdered aloes in the *pulvis aloes cum canella* of the Dublin Pharmacopœia, a preparation better known to the public under the name of *hiera picra*. It enters into the composition of the *compound wine*,

and *tincture of Gentian* of the Edinburgh Pharmacopœia. Canella bark has also been employed in scurvy. The dose of it is from ten grains to half a drachm.

PYROLACEÆ.

Chimaphila umbellata.

The *Pipsissewa*, or *Chimaphilla umbellata*, was first employed medicinally by the aborigines of America. It was introduced to the notice of the profession by Dr. Mitchell in 1803.

It is a native of the northern parts of Europe, America, and Asia, and belongs to class *Decandria*, order *Monogynia*, in the Linnean arrangement. The officinal parts of the plant are the leaves and stems, which are known in the shops as the *herba seu folia Pyrolæ umbellatæ*, or the *winter green*.

When fresh, the leaves exhale a peculiar odour. Their taste is bitter and astringent. Their infusion is rendered green by the salts of iron, indicating the presence of tannic acid. According to the analysis of Elias Wolf, made in 1817, the constituents of the dried plant are—

Bitter extractive	18.0
Resin	2.4
Tannic acid	1.38
Woody fibre, with a little } gum and vegetable calca } reous salts	78.22
<hr/>	
100.00	

The medicinal activity of the plant resides principally in the substance here termed extractive.

The fresh leaves appear to possess considerable acidity, depending, probably, on some volatile constituent: for Dr. Barton says, that in the bruised state, they produce rubefaction, vesication, and desquamation, when applied to skin.

The infusion of the dried leaves, when swallowed, acts as a tonic, producing an agreeable sensation in the stomach, and assisting the appetite and the digestive process. It promotes the action of the secreting organs, more especially the kidneys, over which, indeed, it has appeared to exercise a specific influence, increasing the quantity of urine, diminishing, as some have imagined, the quantity of lithic acid or lithates secreted, and beneficially influencing several forms of chronic nephritic disease. Indeed, *chimaphila* possesses, in its medicinal as well as in its natural-historical and chemical relations, qualities analogous to those belonging to *uva ursi*.

The following are some of the diseases in which this medicine has been employed with great advantage:—

1. *In dropsies*, accompanied with great

debility and loss of appetite, chimaphila is one of our best diuretics, on account of its stomachic and tonic qualities. It was introduced to the notice of practitioners in this country, as a remedy for dropsy, by Dr. Somerville, in a paper published in the fifth volume of the "Transactions of the Royal Medical and Chirurgical Society," to which I must refer for further information.

2. *In those disorders of the urinary organs*, in which uva ursi has been found serviceable, such as cystirrhœa, the chimaphila has been, on several occasions, beneficial. Moreover, calculous disorders, hæmaturia, ischuria, dysuria, and gonorrhœa, are said to have been alleviated by it.

2. *In scrofula*.—We can readily believe that, as a tonic, this remedy may be useful in various forms of scrofula. But it has been supposed by some to possess almost specific powers; and in America its reputation is so high, that in the provinces it acquired the title of "*King's Cure*." Dr. Paris says, that "an irregular practitioner, who has persuaded a certain number of persons in this metropolis, that he possesses remedies, obtained from the American Indians, by which he is enabled to cure scrofula in its worst forms," relies for success on chimaphila.

Administration.—The usual mode of exhibiting this remedy is in the form of decoction, a formula for which has been introduced into the Pharmacopœia: the usual dose of it is one or two ounces. The extract has been employed in doses of fifteen grains.

LOBELIACEÆ.

Lobelia inflata.

History.—This plant was employed by the aborigines in America; and after having been for some time used by quacks, was introduced to the notice of the profession by the Rev. Dr. Cutler, of Massachusetts.

Botany.—It is a very common plant throughout the United States of America, and abounds in a milky juice. Its height is about one foot: the stem is erect, angular, and very hairy: the leaves are sessile, oval, acute, serrate, and hairy. The flowers are monopetalous, and of a pale blue colour. The plant belongs to class *Pentandriá*, order *Monogynia*, of the Linnean arrangement.

Officinal.—The officinal part of the plant is the herb which has a slight odour and an acrid taste. It has not hitherto been analyzed; but the active principle, as it exists in the plant, is soluble in water, alcohol, and æther.

Physiological effects.—An accurate account of the effects of this plant, on man and animals, in the healthy condition of

the body, is yet wanting. From the observations which have been made during its medicinal employment, it appears to possess many properties in common with tobacco (from which circumstance, indeed, it has been termed *Indian Tobacco*,) and in large doses to act as an acro-narcotic poison.

(a.) *On animals generally*.—Horses and cattle have been supposed to be killed by eating it accidentally. (*Thacher's American New Dispensatory*.)

(b.) *On man*.—According to Dr. Barton, the leaves and capsules of this plant, held in the mouth for some time, produce giddiness and pain in the head, with a trembling agitation of the whole body; at length they bring on extreme nausea and vomiting.

In very large doses, this plant is a powerful poison. "The melancholy consequences resulting from the use of *Lobelia inflata*," says Dr. Thacher, "as lately administered by the adventurous hands of a noted empiric, have justly excited considerable interest, and furnished alarming examples of its deleterious properties and fatal effects. The dose in which he is said usually to prescribe it, and frequently with impunity, is a common tea-spoonful of the powdered seeds or leaves, and often repeated. If the medicine does not puke or evacuate powerfully, it frequently destroys the patient, and sometimes in five or six hours." Its effects, according to Dr. Wood, are, "extreme prostration, great anxiety and distress, and ultimately death, preceded by convulsions." He also tells us that fatal results (in America) have been experienced from its empirical use. These are the more apt to occur when the poison, as is sometimes the case, is not rejected by vomiting.

In full medicinal doses (as a scruple of the powdered leaves) it causes severe and speedy vomiting, attended with continued and distressing nausea, sometimes purging, copious sweating, and great general relaxation. The Rev. Dr. M. Cutler, in his account of its effects on himself, says, that taken during a severe paroxysm of asthma, it caused sickness and vomiting, and a kind of prickly sensation through the whole system, even to the extremities of the fingers and toes. The urinary passage was perceptibly affected, by producing a smarting sensation in passing urine, which was probably provoked by stimulus upon the bladder. It sometimes, as in the Rev. Dr. Cutler's case, gives almost instantaneous relief in an attack of spasmodic asthma. Administered by the rectum, it produces the same distressing sickness of stomach, profuse perspiration, and universal relaxation, which result from a similar use of tobacco.

In small doses, it is diaphoretic and expectorant. According to Mr. Andrews*, who speaks from its effects on himself, it has "the peculiar soothing quality of exciting expectoration without the pain of coughing."

Uses.—The following are the principal cases in which it has been employed:—

1. In *asthma* (especially the *spasmodic* kind), and other disorders of the organs of respiration. Given in full doses, so as to excite nausea and vomiting, at the commencement of, or shortly before, an attack of spasmodic asthma, it sometimes succeeds in cutting short the paroxysm, or in greatly mitigating its violence; at other times, however, it completely fails. Occasionally it has been serviceable only in a few attacks, and appears, by repetition, to lose its influence over the disease. It has been used also in some other affections of the pulmonary organs, such as croup, hooping-cough, and catarrhal asthma, but with variable success. It is reported, though I know not how truly, that his late Majesty took it during his last illness.

2. In *strangulated hernia*, Dr. Eberle used it effectually instead of tobacco, in the form of enema.

Administration.—In powder, as an emetic, it is given in doses of from 10 to 20 grains: as an expectorant and diaphoretic, in smaller quantities. It is, however, more commonly given in the form of *tincture*, which, according to the *United States Pharmacopœia*, is prepared by digesting four ounces of the herb in two pints (*i. e.* thirty-two fluid ounces) of proof spirit: the dose of this, when we want it to act as an emetic and narcotic in a paroxysm of asthma, is one or two fluid drachms, repeated every two or three hours. As an expectorant merely, the quantity should be smaller. For children of from one to two years old, affected with croup or hooping-cough, the dose is from 20 to 40 drops. The *ætherial tincture* has been stated to be more successful in asthma than the alcoholic.

SCROPHULARIACEÆ.

Digitalis purpurea.

History.—It appears very improbable that the ancients should have overlooked so common and elegant a plant as foxglove; yet in none of their writings can we find any plant whose description precisely answers to the one now under examination. Fabricius Columna thought that it was the *Ἐφῆμερον* of Discorides, but the description of the latter does not at all coincide with that of foxglove. The *Βάκχαρις* of the same writer has also been referred to, and with more probability of

correctness. But the first writer who undoubtedly speaks of foxglove is Fuchsius, a physician of the sixteenth century.

Botany.—*Digitalis* is a well-known indigenous herbaceous plant, common on dry banks and pastures, and flowering in June and July. Its root is fibrous and biennial; its stem is erect, commonly simple, downy, three or four feet high; the leaves are large, veiny, ovato-lanceolate, crenate and downy. The inflorescence is a long, simple, one-sided raceme (improperly termed in many works a spike): the calyx is monosepalous, in five deep, unequal, ovate, acute segments: the corolla is of a purple colour, spotted on the inside with white, monopetalous, campanulate but inflated beneath, the limb divided: the stamina are four, two long and two short (*didynamous*); the pistillum consists of an ovate capsule, pointed superiorly,—a simple style, longer than the filaments, and a bifid stigma. The fruit is an ovate, two-celled capsule, containing many small albuminous seeds.

A variety of this plant, having a white corolla, is met with in gardens: it is the *Digitalis alba* of some botanists.

This plant belongs to class *Didynamia*, order *Angiospermia*, in the Linnean arrangement.

Officinal.—The officinal parts of the plants are the leaves and the seeds: both should, if possible, be obtained from wild or native specimens of the second year's growth, though Dr. Hamilton asserts they are not deteriorated by cultivation.

1. *Foxglove leaves: Folia Digitalis.*—The leaves should be gathered when the plant is in the greatest perfection,—that is, just before or during the period of inflorescence; and those are to be preferred which are full grown and fresh. As the petioles possess less activity than the laminæ or expanded portions of the leaves, they ought to be rejected. Dr. Withering directs the leaves to be dried either in the sunshine or in a tin pan or pewter dish before the fire; but the more usual, and I believe better mode of proceeding, is to dry them in baskets in a dark place, and by a gentle heat, as warm air. Both dried leaves and powder should be preserved in well-stoppered bottles, covered externally by dark-coloured paper, and kept in a dark cupboard. As both undergo changes by keeping, whereby their medicinal activity is considerably diminished, they ought to be renewed annually. Dried foxglove leaves have a dull green colour, a faint odour, and a bitter nauseous taste.

Several analyses of foxglove leaves have been performed, but with most unsatisfactory results. Here is a quantitative analysis, published by Rein and Haase in 1812:—

Green resin, soluble in æther, alcohol, and volatile oils	5.5
Extractive	15.0
Gum, with a vegetable salt of potash	15.0
Woody fibre	52.0
Superoxalate of potash	2.0
Water	5.5
Loss	5.0

100.0

With regard to the action of reagents on infusions of foxglove, I may mention, that a solution of any of the perferruginous salts causes a green colour, indicating the presence of tannic acid; and the tincture of galls renders the infusion turbid.

The nature and properties of the *active principle* of foxglove have not been satisfactorily made out. Haase regarded his *resinous* substance as the most active constituent. Leroyer has described a crystalline, alkaline substance, soluble in æther, as being the active principle, and has termed it *Digitalin*. From half a grain to a grain and a half of it injected into the veins of small animals (as dogs, cats, and rabbits) killed them in a few minutes without convulsions, but with an irregular slow pulse, and a gradual extinction of the powers of life. Though analogy and the action of the tincture of galls on the infusion are in favour of the presence of an alkaline base in foxglove, it is very improbable that Leroyer has obtained it, at least in its pure state. The diminution of power which this plant experiences in drying would appear to shew that the active principle is of a volatile nature. Dulong d'Astafort asserts that *Digitalin* does not possess basic properties, but is analogous to Cytisin and Cathartin, and that it is insoluble in æther; and I may add, the experiments of Brandes agree with those of Dulong. More recently Pauquy has obtained a white inodorous substance, of an acrid taste, crystallized in fine needles, insoluble in water, soluble in alcohol and æther, and alkaline. Though very different to the substances just mentioned, he calls it *Digitalin*. These remarks shew how little is yet known regarding the active principle of this plant.

2. *Foxglove seeds: Semina Digitalis*.—The seeds of foxglove are small, roundish, and of a greyish brown colour. Though official, they are, I believe, rarely employed. I am not acquainted with any analysis of them.

Physiological effects of foxglove: (a.) On vegetables.—Marcet found that a solution of the watery extract of foxglove acted on a haricot plant (*Phaseolus vulgaris*) like hemlock before mentioned*.

(b.) *On animals generally*.—The effects of foxglove have been tried on dogs, horses, rabbits, turkeys, the domestic fowl, and frogs; and on all it has been found to act as a poison. One drachm of the powder may be given to horses as a sedative in inflammation; two ounces have produced death in twelve hours. According to the experience of Orfila, the first symptoms of poisoning observed in animals is vomiting. The influence of the poison over the heart does not appear to be uniform, for in some cases he found the pulsations of this viscus unaltered, in others accelerated, while occasionally they were retarded. The cerebro-spinal symptoms were, diminished muscular power, convulsive movements, tremors, and insensibility. The powder acted as a local irritant, giving rise to inflammation of parts to which it was applied.

(c.) *On man*.—We may, for convenience, establish three degrees of the operation of foxglove.

In the first degree, or that produced by small and repeated doses, foxglove sometimes affects what are termed the organic functions, without disordering the animal or cerebro-spinal functions. Thus we sometimes have the stomach disordered, the pulse altered in frequency, and sometimes also in fulness and regularity, and the secretion of urine increased, without any other marked symptoms. The order in which the symptoms just mentioned occur, is not uniform; sometimes the diuresis, at others nausea, and occasionally the affection of the circulation being the first obvious effect.

The influence of foxglove over the circulation is not at all constant. A few drops of the tincture will in some cases reduce the frequency of the pulse, and render it irregular, while in other instances much larger doses may be taken without any obvious effect on it. Dr. Withering mentions one case in which the pulse fell to 35, and I have frequently seen it reduced to 50. In some cases the slowness of the pulse is preceded by an increased activity of the vascular system. Dr. Sanders indeed asserts that this is invariably the case, and refers to an experience of 2000 cases in proof. He says that he has seen the pulse rise from 70 to 120 under the use of foxglove, and at the end of twenty-four hours, or sooner, fall with greater or less rapidity to forty, or even below this. But an experience of the use of foxglove in only twenty cases, will, I believe, convince most persons that Dr. Sanders has fallen into an error in the sweeping assertion which he has made. A great deal, however, depends on the position of the patient; if you wish to observe the reduced frequency of pulse,

* MEDICAL GAZETTE, vol. xix. p. 766.

keep your patient in the recumbent posture. The important influence of posture was first pointed out, I believe, by Dr. Baildon. His own pulse, which had been reduced by this plant from 110 to 40 beats per minute while he was in the recumbent position, rose to 70 when he sat up, and to 100 when he stood. We have a ready explanation of this fact. In a state of health the pulsations of the heart are more frequent (usually to the extent of five or six in the minute) in the erect than in the horizontal position; and it is very obvious that greater force is required to carry on the circulation in the former than in the latter, since, in the erect position, the heart and arteries have to send blood to the head against gravity. Now the power of the heart being enfeebled by foxglove, when a demand is made on this viscus for an increase in the force of contractions by the change from the recumbent to the standing attitude, it endeavours to make up for its diminished force by an increase in the frequency of its contractions. I need hardly say that the sudden change of position in those who are much under the influence of this medicine, is attended with great danger, and in several instances has proved fatal; for, in consequence of the heart not having sufficient power to propel the blood to the head against gravity, fatal syncope has been the result. The influence of digitalis over the pulse is more marked in some individuals or cases than in others; thus the reduction of the frequency of the pulse is in general more readily induced in weak and debilitated constitutions than in robust and plethoric ones. Occasionally no obvious effect on the number, force, or regularity of the pulse is produced, though the foxglove may be given to an extent sufficient to excite vomiting and cerebral disorder.

A most important fact connected with the repeated uses of small doses of it, is the *cumulative effect* sometimes observed. It has not unfrequently happened that, in consequence of the continued use of small doses of this medicine, the vascular system has suddenly, and without any premonitory symptoms, become affected to the imminent danger, or perhaps the death of the patient. We ascribe this to what is termed the accumulation of the effects in the system. A knowledge of its occasional occurrence impresses us with the necessity of exercising great caution in the use of this remedy, particularly with respect to the continuance of its administration and increase of dose, and it shews us that after the constitutional effect has become obvious, it is prudent to suspend from time to time the exhibition of the remedy in order to guard

against the effects of this alarming accumulation. I may add, however, that I have used it, and seen others employ it most extensively, and in full doses, and have rarely seen any dangerous consequences, and I believe, therefore, the effects of accumulation to be much less frequent than the statements of reputable authorities would lead us to expect.

The diuretic operation for which we employ foxglove is very inconstant. Dr. Withering stated that this medicine more frequently succeeds as a diuretic than any other, and that if it fail, there is but little chance of any other remedy succeeding. My experience, however, is not in accordance with Dr. Withering's. I have frequently seen foxglove fail in exciting diuresis, and have often found the infusion of green-broom subsequently succeed. It has been asserted by some, that the diuretic effect of foxglove was only observed in dropsical cases, and that it therefore depended on the stimulus given to the absorbent vessels, and not to any direct influence exerted over the kidneys; but the statement is not true, since foxglove is sometimes found acting as a diuretic even in health. In some cases the bladder has appeared more irritable than usual, the patient having a frequent desire to pass his urine.

2. The *second degree of operation* of digitalis, or that ordinarily resulting from the use of too large or too long continued doses, is manifested by the disordered condition of the alimentary canal, of the circulating organs, and of the cerebro-spinal system. The more ordinary symptoms are nausea or actual vomiting, slow and often irregular pulse, coldness of the extremities, syncope or a tendency to it, giddiness, and confusion of vision. Sometimes the sickness is attended with purging, or even with diuresis; at other times the patient is neither vomited nor purged, and the principal disorder of system is observed in the altered condition of the nervous and vascular organs. External objects appear of a green or yellow colour; the patient fancies there is a mist, or sparks, before his eyes; a sensation of weight, pain, or throbbing of the head, especially in the frontal region, is experienced; giddiness, weakness of the limbs, loss of sleep, occasionally stupor or delirium, and even convulsions, may also be present. The pulse becomes feeble, sometimes frequent, sometimes slow; there may be actual syncope, or only a tendency to it, and profuse cold sweats.

The quantity of digitalis that may be given to a patient without destroying life is much greater than is ordinarily imagined. In one instance I saw 20 drops of the tincture given to an infant labour-

ing under hydrocephalus, three times daily for a fortnight, at the end of which time the little patient was completely recovered, without one untoward symptom. I have frequently given a drachm of the tincture (of the best quality) three times daily to an adult for a fortnight, without observing any very marked effect. I know that some practitioners employ it in much larger doses (as an ounce or half an ounce of the tincture), with much less effect than might be imagined. The following communication on this subject, from my friend Dr. Clutterbuck, illustrates this point:—"My first information on this subject was derived from an intelligent pupil, who had been an assistant to Mr. King, a highly respectable practitioner at Saxmundham, in Suffolk, who, on a subsequent occasion, personally confirmed the statement. This gentleman assured me that he had been for many years in the habit of administering the tincture of digitalis, to the extent of from half an ounce to an ounce at a time, not only with safety, but with the most decided advantage, as a remedy for acute inflammation,—not, however, to the exclusion of blood-letting, which, on the contrary, he previously uses with considerable freedom. To adults he often gives an ounce of the tincture (seldom less than half an ounce), and waits the result for twenty-four hours, when, if he does not find the pulse subdued, or rendered irregular by it, he repeats the dose; and this, he says, seldom fails to lower the pulse in the degree wished for; and when this is the case, the disease rarely fails to give way, provided it has not gone the length of producing disorganization of the part. He has given as much as two drachms to a child of nine months. Sometimes vomiting quickly follows these large doses of the digitalis, but never any dangerous symptom, as far as his observation has gone, which has been very extensive. In less acute cases he sometimes gives smaller doses, as thirty drops, several times in a day.

"Such is the account I received from Mr. King himself, and which was confirmed by his assistant, who prepared his medicines. I do not see any ground for questioning the faithfulness of the report. I have myself exhibited the tincture to the extent of half an ounce (never more), in not more than two or three instances (cases of fever and pneumonia). To my surprise there was no striking effect produced by it; but I did not venture to repeat the dose. In numerous instances I have given two drachms; still more frequently one drachm; but not oftener than once in twenty-four hours, and not beyond a second or third time. Two or three exhi-

bitions of this kind I have generally observed to be followed by slowness and irregularity of pulse, when I have immediately desisted."

3. The *third degree* of the operation of foxglove, or that resulting from the use of *fatal doses*, is characterized usually by vomiting, purging, and griping pain in the bowels; slow, feeble, and irregular pulse, great faintness, and cold sweats; disordered vision; at first giddiness, extreme debility; afterwards insensibility and convulsions, with dilated insensible pupils.

Uses.—We employ foxglove for various purposes, as, 1stly, to reduce the frequency and force of the heart's action; 2dly, to promote the action of the absorbents; 3dly, as a diuretic; and 4thly, sometimes on account of its specific influence over the cerebro-spinal system.

In the following remarks on the uses of foxglove in particular diseases, I refer to the administration of this remedy in the doses in which it is ordinarily employed. I have no experience of its therapeutical effects when given in the enormous quantities mentioned by Dr. Clutterbuck.

1. *In fever.*—Digitalis is occasionally useful in fever to reduce the frequency of the pulse, when the excitement of the vascular system is out of proportion to the other symptoms of fever, such as the increased temperature, and the cerebral or gastric disorder. It cannot, however, be regarded in the most remote way as a curative means; on the other hand, it is sometimes hurtful. Thus, not unfrequently it fails to reduce the circulation; nay, occasionally it has the reverse effect, accelerates the pulse, while it increases the cerebral disorder, and perhaps irritates the stomach. In estimating its value as a remedial agent for fever, we must not regard it as a sedative means (I refer now to the vascular system) merely; it is an agent which exercises a specific influence over the brain, and, therefore, to be able to lay down correct indications and contra-indications for its use in disordered conditions of this viscus, we ought to be acquainted, on the one hand, with the precise nature of the influence of the remedy, and, on the other, with the actual condition of the brain in the disease which we wish to ameliorate. Now as we possess neither of these data in reference to fever, our use of foxglove is, with the exception of the sedative influence over the circulation, empirical; but experience has fully shewn us it is not generally beneficial. But, I repeat, where the frequency of pulse bears no relation to the local or constitutional symptoms of fever, foxglove may be serviceable.

2. *Inflammation.*—Foxglove has been employed in inflammatory diseases, prin-

cipally on account of its power of reducing the frequency of the pulse, though some have referred part of its beneficial operation to its influence over the absorbent system. I need hardly inform you, that inflammation, of a chronic kind, may be going on in one part of the body to an extent sufficient to produce complete disorganization, and ultimately to cause the death of the patient, without the action of the larger arterial trunks (*i. e.* of the system generally) being remarkably increased. In such cases, digitalis is, for the most part, of little use. Again, in violent and acute inflammation, accompanied with great excitement of the general circulation, especially in plethoric subjects, foxglove is, in some cases, hurtful; in others it is a trivial and unimportant remedy; and we therefore rely in our treatment on blood-letting, and other powerful antiphlogistic measures; and foxglove, if serviceable at all, can only be used after the other means.

As a remedy for inflammation, foxglove is principally useful in less violent cases, particularly when accompanied with increased frequency of pulse, and occurring in subjects not able to support copious evacuation of blood. Moreover, it has more influence over inflammation of some parts of the body (as the arachnoid membrane, the pleura, and the lungs) than of others. In gastric and enteritic inflammation, it would appear to be objectionable on account of its irritant properties: while its specific influence over the brain would make it a doubtful remedy in phrenitis. In arachnitis of children it is certainly a most valuable agent.

3. *Dropsy*.—Of all remedies for dropsy none have gained more, and few so much, celebrity as foxglove. It has been supposed to owe its beneficial operation to its repressing arterial excitement (a frequent cause of dropsical effusion), to its promoting the functions of the absorbent vessels, and particularly to its diuretic effects. Whatever may be its *modus operandi*, its powerful and salutary influence in many dropsies cannot be a matter of doubt. Dr. Withering has correctly observed, that “it seldom succeeds in men of great natural strength, of tense fibre, of warm skin, of florid complexion, or in those with a tight and cordy pulse.” “On the contrary, if the pulse be feeble or intermitting, the countenance pale, the lips livid, the skin cold, the swollen belly soft and fluctuating, or the anasarcaous limbs readily pitting under the pressure of the finger, we may expect the diuretic effects to follow in a kindly manner.” In those with a florid complexion, blood-letting and purgatives will often be found useful preparatives for foxglove. The best form for exhibiting

this remedy, as a diuretic, is that of infusion.

4. *Hæmorrhages*.—In hæmorrhages (as hæmoptysis) foxglove is employed after blood-letting; or in cases where the artificial abstraction of blood is not admissible, we administer it in combination with the dilute acids.

5. *Diseases of the heart and great vessels*.—An important indication in the treatment of many diseases of the heart and great vessels is to reduce the force and velocity of the circulation. The most effectual means of fulfilling this indication are the adoption of a low diet, repeated blood-letting, and the employment of foxglove. Thus in *aneurism of the aorta*, our only hope of cure is by the coagulation of the blood in the aneurismal sac, and the consequent removal of the distensive pressure of the circulation. To promote this, we endeavour to retard the movement of the blood within the sac, by diminishing the quantity of blood in the system generally, and by reducing the force and velocity with which it circulates. I need hardly say blood-letting and digitalis are, in these cases, very important agents. Again, in *simple dilatation* of the cavities of the heart, our objects are to remove, if possible, the cause (usually obstruction in the pulmonary or aortic system), to strengthen the muscular fibres of the heart, and to repress any preternatural excitement of the vascular system. Digitalis is useful to us in attaining the latter object. In *simple hypertrophy*, or *hypertrophy with dilatation*, we have to reduce the preternatural thickness of the heart's parietes, and this we do by removing, when it can be done, any obstruction to the circulation, by using a low diet, by repeated blood-letting, and by the employment of foxglove. No means, says my friend and colleague, Dr. Davies (*MEDICAL GAZETTE*, vol. xv. p. 790), excepting the abstraction of blood, diminishes the impulsion of the heart so completely and so certainly as digitalis. “I have been,” says he, “in the habit of using it for several years for these affections, and have rarely seen it fail in producing at least temporary relief.” In some disordered conditions of *innervation* of the heart and great vessels—as in *angina pectoris*, nervous palpitations of the heart, and augmented arterial impulsion, foxglove is also at times beneficial.

6. *Diseases of the nervous system*.—In some affections of the nervous system, as mania, epilepsy, spasmodic asthma, &c. foxglove has at all times proved remarkably efficacious, apparently from its specific influence over the cerebro spinal system, and, independent of its sedative operation, on the vascular system.

There are many other diseases which

have been beneficially treated by foxglove, but which my time will only allow me to enumerate: they are, diseases of the lungs (especially phthisis), scrofula, hooping-cough, rheumatism, and uterine affections.

Administration.—The ordinary dose of foxglove, in powder, is from half a grain to a grain and half, repeated two or three times a day, until some obvious effect is produced,—then omitting it for a few days. The dose of the infusion is from half an ounce to an ounce: of the tincture, from ten to thirty or forty minims. These, I repeat, are the ordinary quantities used. Of the use of those enormous doses of the tincture before referred to, I have no experience.

Antidotes.—I am unacquainted with any chemical antidote for digitalis, though, if the active principle be an alkali, it is not improbable that infusion of galls would diminish its activity. In a case of poisoning by this plant, therefore, we must rely on the expulsion of it from the stomach, and the counteraction of its effects by the use of stimulants (as ammonia and brandy), and by keeping the patient in a recumbent position.

ON SCURVY.

Extract from the Annual Report of
DR. MURRAY,

Principal Medical Officer at the Cape of Good Hope.

Communicated to the Medical Gazette by Sir
Jas. M'Grigor, Bt. M.D.

Director General of the Army Medical Department.

DURING the period I am now reporting upon, (1836,) scurvy broke out and spread to a considerable extent amongst the troops stationed in the new province of Queen Adelaide, particularly in the 75th regiment, at a time when the men had no harassing duties, and were abundantly supplied with rations of good fresh meat, without having had an ounce of salt provisions; and so little did the medical officers expect to encounter this disease under such circumstances, that they did not recognize it for some time after it appeared, nor until the morbid diathesis had widely extended itself in the above-mentioned corps.

Systematic writers, and lecturers at medical schools, inculcate the doctrine that this disease is chiefly produced by

the long-continued use of salt provisions. This, however, seems to be incorrect: the cause of it, on board ships, is rather to be ascribed to the want of admixture of fresh vegetable matter in the diet; at the same time I think that *no single cause* can be assigned for its production, which does not admit of being reasonably questioned.

It is not by mere cursory observation that the causes of disease are in general to be ascertained; but by the careful investigation of a variety of circumstances, and by inferences deduced therefrom; and even then the conclusions are liable to be erroneous.

According to my inquiries, it would appear that the origin of the scorbutic disease with which the troops on the frontier have been afflicted, cannot be ascribed to one sole agent, but that several causes have concurred in its production, which are yet difficult to be defined. Military hygeia involves a multitude of objects with which the medical officer requires to be acquainted; and as he is subject to be called upon for a responsible opinion in regard to all arrangements connected with the health of troops, it is, therefore, a study of paramount importance.

Much has been done in modern times in improving this branch of naval and military economy, and one of the consequences is, that scurvy has become so rare a disease, that it is almost as much unknown to our medical officers as I believe it is to the profession in civil life.

I candidly confess, that although I had before treated cases of this malady, I did not know it by its proper name, but used incorrectly to return it under the heads of purpura, cachexia, neuralgia, rheumatism, œdema, &c. until its late extraordinary prevalence in the 75th regiment, and the recent admission into the civil hospital here, from whaling vessels, of a number of sailors affected with it; which attracted my particular attention to its diagnosis.

With a view of preserving an accurate account of the circumstances which may be considered illustrative of the cause or causes of its origin, as well as of its mode of propagation, pathology, diagnosis, and the most successful means of preventing and counteracting its injurious effects, I called upon all the medical officers who had an opportunity of personally observing it at this time,

to report fully to me regarding these points; and it will be satisfactory that I give an account of their statements after making a few prefatory remarks.

In the end of December 1834, the bordering Amakosa Caffers made an unexpected and devastating attack upon the eastern frontier of the colony, and a force of soldiery and burghers was speedily collected to repel and punish them for their unprovoked aggression, as well as to take means of security against their future attacks.

For many weeks the enemy were able to make head, and even penetrated into the district of Uitenhage, after over-running the fine rich provinces of Albany and Somerset, and effecting great destruction of life and property. It was not until the month of February that the troops succeeded in driving them back within their own limits, and not until the very end of March, that the Governor was enabled to advance into Cafferland with a force sufficient to put down the tribes that continued in hostile array against the colony.

The regular troops collected upon the frontier at this conjuncture, consisted of the 72nd and 75th regiments of foot, (about 400 men each) and the Cape corps of mounted rifles, (250 strong;) to which were added about 1000 mounted Dutch burghers, 7 or 800 provisional Hottentot infantry, and some mounted guides and volunteers.

The 72nd regiment comprised the European part of the force that entered, and made the campaign in Cafferland, where it had hard service. It remained there (in the Province of Adelaide, the part of the country conquered from the enemy,) till after peace was made, when the 75th regiment, which had remained on the Colonial border, for its protection during the war, was advanced to occupy the new province.

The duty which the 75th regiment had to perform during the war, was probably not less arduous than that of the 72nd, although not of so exciting a nature; but both regiments, and indeed the whole army, enjoyed excellent health throughout the duration of hostilities, and likewise for a long time afterwards.

During the months of April, May, and June, (1835,) the troops that advanced into Cafferland got abundance of vegetables (chiefly pumpkins) in the Caffer gardens; while those that re-

mained on the Colonial border, were, for the most part, deprived of them. In this respect, therefore, the 72nd regiment, with greater part of the Cape corps and provisional Hottentot infantry, had the advantage of the 75th for these three months.

Peace was concluded in September, and in October, (1835) the 75th regiment relieved the head quarters and two companies of the 72nd, which latter moved from the Province of Adelaide to Graham's Town. The other four companies of the 72nd remained at Forts Cox, Beresford, and Murray; the 75th occupied the rest of the posts in that country.

The 27th regiment arrived on the frontier, from England, in September, and after the peace, its head quarters, with the two flank companies, were sent to Cape Town: the remainder of this corps took duty at Graham's Town, and the posts on the colonial border and neutral ground, which the 75th had before occupied.

The Cape mounted rifles and provisional Hottentot infantry, were distributed throughout the different out-posts. The Dutch burghers, guides, and volunteers, were disbanded.

After the beginning of 1836, there was not any remarkable difference in the duties, diet, clothing, or quarters of the men stationed at the out-posts in the New Province, neutral ground, and Colonial border; yet, early in this year, the scorbutic diathesis began to shew itself amongst the European soldiers stationed in the New Province, and insidiously to spread itself, particularly in the 75th regiment.

I left the frontier myself with the Commander in Chief, in the end of 1835, before any case of this affection was reported; and as I had not an opportunity of personally observing it in that quarter, I shall now bring forward the substance of the reports of the medical officers under whose eye it occurred.

I.—Report of Dr. Delmege, Assistant-surgeon, 27th regiment.

Graham's Town, January 1837.

In reporting upon the circumstances which have given rise to scurvy among the troops here at this time, I can produce but few facts from personal observation, never having seen it in its early stages: my experience has been en-

tirely confined to its most advanced and worst periods, and my knowledge of the country has been derived more from hear-say than from actual observation.

From a general consideration of the circumstances, I should be inclined to apprehend that some predisposing cause existed in atmospheric influence, and that the climate of the province of Queen Adelaide, though apparently not differing from that of the old colony, has had some share in producing this disorder; and yet, from all I can learn, none of the natives (Caffers) have had the slightest appearance of its symptoms; and, with one exception, in which the disease was but sparingly manifested, the Hottentot troops serving with the Europeans, have altogether escaped.

I hesitate not to say, that I consider the principal causes to have been the almost total want of vegetables, and exposure to cold at nights. Whilst soldiers are cheered by exhilarating circumstances, which lead to praise and reward, few suffer from disease; but when this source of mental excitement has ceased, and the men are still harassed with hard duty in the oppressive heat of the days, and are exposed to the cold and damp of the nights from want of sufficient shelter, (as was the case in the New Province after the war,) then their health will generally break down.

From the combination of the disorder in some of the cases with symptoms of delirium tremens, dyspepsia, and hepatitis, I think I may with great propriety place the ill-judged and mischievous indulgence of the men in ardent spirits, as another of the fundamental sources of it.

In no instance has the disease appeared among the officers, and it has only occurred in one or two cases among the women and children.

While speaking of the causes, it may not be improper to ask, is this disease ever propagated by contagion? I do so without offering an opinion myself, but think it proper simply to relate the history of two cases that have occurred here, as I have been best able to collect the particulars, and leave the question to be decided by more minute observation and further experience.

Private Atkinson, 27th regiment, was admitted into hospital at Graham's Town with an injury of the head, and placed next to a patient labouring under scorbutus. After some time he was dis-

charged and sent to quarters; where, without being exposed to any fatiguing duties, he soon became affected with scorbutic disease. It will be asked, were there no other patients in hospital equally exposed, who did not become affected? to which it may be replied, that persons are often exposed to fever, small-pox, and other infectious diseases, without being contaminated; owing to their constitutions not being predisposed, or susceptible to infection, at the time.

The other case is that of Private Forbes, 75th regiment, who was in hospital suffering from asthma, and became affected with scorbutus. I do not *argue* in favour of this disease being contagious; but, where no other assignable cause for it is apparent, it may be as well to bear in mind, that some disorders are thus propagated, which were not at first suspected to be so.

A knowledge of the morbid changes which take place in any disease is necessary for understanding its pathology, and regulating its treatment upon scientific and just principles, but as this knowledge can only be accurately obtained by examination after death, and as very few cases have terminated fatally here, I can say little on this head; from the symptoms during life, however, I have no doubt that some local visceral obstruction takes place in most cases, and that in nearly all the liver is affected. In the only post-mortem examination I had an opportunity of making, I found a slight congestion in this organ; and in the whole of the large intestines, between the mucous and muscular coats, there was a thick layer of extravasated blood, exactly resembling the ecchymosed appearance in the external surface of the body: I never saw the person previous to death; but, judging from the general symptoms in the other cases, I fully expected this appearance.

I believe the scorbutus which has lately prevailed in this part of the Colony, in no way resembles the true scurvy by which sailors are sometimes attacked; and that it also differs a good deal from the purpura hæmorrhagica of Bateman and Willan.

I have made the most minute inquiries as to the premonitory symptoms, but have not been able to discover any, save a sense of slight weight at the præcordia, stiffness of the limbs, and excessive languor.

The treatment I believe to be more dietetic than medicinal: my first care in regard to the patients was, to make them comfortable in every respect as to quarters, clothing, and bedding. As remedies — lime-juice, vinegar, fruits, vegetables of every kind to be procured, beer, wine, rice, sago, &c. suited to the appetite, were all used with advantage, and milk was found of the greatest utility.

In nearly all the cases there was great laxity of the bowels, with griping, which generally yielded to the *mistura cretæ*, with *tinct. catechu et opii*, and recourse was had in obstinate cases to the *acet. plumbi*, with *extract hyosciami*.

For the pain, swelling, and stiffness of the joints, flannel bandages, and friction with camphorated oil were used; but these symptoms sometimes continued long, and only disappeared with the general disease. I found it of material advantage to vary constantly the applications to the mouth and gums. Frequently severe hæmorrhage took place from them, which I never failed to arrest by the application of nitrate of silver: hæmorrhage from the intestines was sometimes checked by starch injections.

I cannot speak from experience as to what treatment might be most appropriate in the primary stages, but I should certainly think, from the general languor and atony of the system, that depletory measures would be injurious, although slight purging might be useful.

II.—*Report of Assistant-Surgeon Ford, 72nd regiment.*

The extraordinary endemic appearance of scurvy among the troops serving on this frontier during 1836, but more especially among the men of the 75th regiment, stationed in the New Province, renders the subject of the causes of the scorbutic diathesis, its pathology, and the means of its prevention and cure, a study of peculiar interest; and affords a field for important inferences and conclusions.

The first question to be decided is, whether the disease we have had to deal with be *true scurvy*, and identical with the affection which occurs among sea-faring men in long voyages; or whether it be any other of the family of purpura? To this I reply, that the disease in those I saw, (and I presume it has been the same in all,) was most decidedly true scurvy. The prominent symptoms

which presented themselves (as will be seen hereafter,) leave no doubt on this point.

The diagnosis being established, the next inquiry is, what are the causes (predisposing and exciting) which have given rise to this scorbutic disease among the military here? Upon this point I cannot offer remarks from personal observation, not having been at any of the posts when it broke out and prevailed at them; neither can I describe the premonitory or early symptoms of the complaint, as I have not seen any of the patients in the commencement of its attack.

I have been stationed close to the scene of its prevalence, however, and will state the opinion I formed soon after its first occurrence, relative to the combination of circumstances which probably predisposed and gave rise to it.

1st.—I am of opinion that exposure to atmospheric influence in the cold months of July and August, the time it first manifested itself, was a main cause of its production. In June and July, the range of high mountains in the New Province was frequently covered with snow, and the cold was penetrating. Fort Cox was particularly exposed to this influence, from its elevated position among those mountains, and the disease shewed itself early at it.

2nd.—Privation of the means of that warmth and comfort in quarters, to which the men had been accustomed. The huts of the soldiers were in general hurriedly constructed, and not well adapted for the exclusion of cold and damp; and they were without fire-places. The men had no bedsteads, and they lay on the ground or on grass, with one, or at most two, blankets to each, as bed and bedding, which induced them to sleep in their clothes; and hence we may infer that some neglect of personal cleanliness was likely to have been the consequence.

3rd.—The improper and unwholesome nature, and deteriorated quality, of alimentary substances. This has always been enumerated as one of the most powerful exciting causes of scorbutic disease; and to it I consider that much is to be attributed in the production of this endemic. There had been a total and long-continued deficiency of fruit and vegetables for the men; and the bread, the principal substitute for these essential articles of diet, was, from want

of well-constructed ovens, generally crude and ill-baked. Animal food, I conceive, formed an undue proportion of their daily aliment.

The use of impure, or brackish water, has been assigned as a cause; but as the disease, in this instance, made its appearance alike at posts well supplied with pure, good water, and at others where blackish water only could be procured, this idea cannot be entertained.

Is scorbutus contagious or not? My observation leads me to reply in the negative. From August till December, I had constantly patients affected with it in my hospital admitted from King William's Town, Forts Cox and White, who were placed in the same wards with those labouring under other complaints, some of whom were in a debile state, (especially those convalescing from influenza;) yet in no instance was the scurvy communicated thereby. I can believe, however, when a tendency to this disease has been induced by exposure to its primary causes, that association with those in whom it has made advanced progress, (especially in crowded situations) and inhaling the fœtid breath and other noxious effluvia generated in those so affected, would be likely to expedite its development.

Half a gill of spirits was daily allowed to every man in the New Province for several months previously to the scorbutic diathesis becoming manifest, as well as afterwards; but how far this might have had any influence, either as a preventive or as a generative, is uncertain; I should imagine, however, that in men of phlethoric and sanguine temperament, it must have been prejudicial in the commencement of the disease.

There may have been other minor circumstances, besides those I have enumerated, which concurred to forward the generation of this disease; such as too crowded a state of the huts, producing unwholesome air, previous sickness, idiosyncrasy, and habitual indulgence in the use of ardent spirits: but whether such did exist to affect the men's health must be determined by the observations of the medical officers at the posts where the disease broke out.

The exemption from scurvy of those individuals who had the means of obtaining comforts appertaining to diet or personal convenience, goes far to prove that the above-mentioned causes were

chiefly instrumental in its production. We find that in no instance has an officer been the subject of its attack. The senior non-commissioned officers, too, as also married soldiers and their families, who inhabited detached huts in which were fire-places, and who had their bedding raised from the ground upon bedsteads, with facilities for varying their diet and mode of cookery, which was not enjoyed by the other soldiers, were also generally exempted from the malady. For similar reasons not a single case occurred among the civilians, traders, and other camp-followers at the different posts.

To assign reasons for the more generally (nearly exclusive) prevalence of the disease in one particular corps, (the 75th,) is a subject of greater difficulty, and requires an intimate acquaintance with the temperaments, constitutions, idiosyncrasies, and general habits of the men; as also a knowledge of the interior economy, management, and comparative duties of that corps, which information, so necessary to determine whether or not in these particular points any predisposing or assisting cause of the disease existed, can only be obtained satisfactorily from those who had an opportunity of personally ascertaining the circumstances.

[To be continued.]

EFFECTS OF DEFICIENT OSSIFICATION OF THE CRANIUM.

To the Editor of the Medical Gazette.

SIR,

THERE are two errors into which most writers are apt to fall,—the one of particularizing too much, the other of generalizing too much; both tending to false consequences,—a failing which I am desirous in this instance of avoiding, in my endeavour to show that a defect of the bony structure of the cranium is of itself a cause of epilepsy, cerebral congestion, and hydrocephalus.

It may perhaps be well, in the introduction of the following cases, to consider for a moment the structure of the cranium; and, reversing the usual mode of reasoning, I shall commence from old age, and thence proceed to infancy. In advanced life the bones of the skull are compact and very firm, almost uni-

form in their substance; hence, when old men receive a blow on the head, they suffer more readily from concussion of the brain, the different laminæ being so consolidated as to admit of no yielding, nor do the different layers of the bone prevent vibration. In middle age the texture of the cranium is not uniform; the external table or outer layer of bone is tough and firm, the inner table or vitreous (as its name implies) glassy, friable, easily broken; between these two tables we have the diploe. These tables or structures being differently composed, and vibrating differently, are better calculated to resist the effects of a blow or fall, and can rarely vibrate together. In infancy the skull possesses elasticity, such elasticity being greatest at birth, and decreasing as it grows. It is between the ages of nine and twenty months that I wish more particularly to notice the defect of compactness in the structure of the cranium. In the nineteenth volume of the *MEDICAL GAZETTE*, page 495, I endeavoured to support the truth of Sir Gilbert Blane's doctrine of the necessity of compactness in the bony compages of the cranium to fit the cerebral mass for its natural action. Therefore, admitting that an unnatural separation of the sutures, and an unnatural enlargement of the fontanelles, with thinness of the bones of the head, is seen as an effect, the inquiry of necessity follows—What is the cause, or what are the causes, of such a condition, and to what results will this imperfection of structure tend?

In the first place, what are the causes? Improper nutriment, a strumous diathesis, and a lack of warmth of the skin during the first seven or eight months of infantile life. What are the results of such a condition? Epilepsy, cerebral congestion, hydrocephalus, and mesenteric disease. Thus premising, I shall illustrate these remarks by relating a few cases.

CASE I.—*Epileptic Fits—Open Sutures—Roller to the Head—Recovery.*

January 12, 1837.—I attended the child of G. P—ps, aged fourteen months; he was subject to epileptic fits, which returned at intervals, day and night. Leeches, blisters, and calomel, were used according to the age and strength of the child; nevertheless, the fits returned with equal severity. On examining the head I found the frontal bone advanced, with separation of the

coronal suture; the anterior fontanelle enlarged. The child appeared to suffer from general lassitude, pallidness of the skin, with considerable loss of flesh.

February 7.—He had a fit of epilepsy in the night. I now applied a calico roller to the head, about one inch and a half in width; ordered the child a milk diet, with six drachms of lime-water daily. The patient from this date steadily improved, without the slightest return of the fits, increasing in health and strength. The circumference of the cranium was reduced an inch in extent.

May 1.—Quite well, and has had no return up to the date of this paper. The parents have lost two children from hydrocephalus.

CASE II.—*Epileptic Fits—Temporary improvement from application of Roller—Death.*

Jan. 4, 1837.—At Gravesend, W. Edwards, aged seven months, was attacked with epileptic fits, apparently arising from cerebral congestion, accompanied with symptoms of compression. He was judiciously treated by Messrs. Park and Armstrong, of the above place, with leeches, blisters, and calomel, under which plan he was in a few days apparently restored to health.

20. — Returned home to Bexley Heath.

February 25.—The epileptic fits returned, but unattended by the same symptoms of compression on the brain. I applied leeches to the temples, counter-irritation along the upper part of the spine, and gave calomel in three-grain doses every four hours. The fits continued with increased violence, until green foetid motions passed off from the bowels, after which he again rapidly recovered.

March 10.—He was a third time the subject of epilepsy. I now directed my attention to the bony structure of the skull. The os frontis was much advanced, with separation of the coronal suture and enlargement of the fontanelles, with general yielding of the bones. After he had passed a restless night, and had had two fits during that period, I applied a calico bandage round the head, so as to support the bony compages, and ordered, as in case the first, milk diet and lime water. In about a fortnight the head lessened, the bones receded, the epileptic fits did not return,

and the child again appeared not only much relieved, but to all around not like the same child—lively, strong, and the countenance, from having a dull heavy cast, became intelligent and expressive.

April 11th.—He had a few slight attacks, which yielded to a few doses of calomel.

May 1st.—The epileptic fits returned, accompanied with irregular action of the diaphragm, so that at times the patient was nearly suffocated; the lips tumid, livid, ribs fixed, and the heart beating with tremendous force. From this time he lost the use of his legs. The spasms were relieved by opiates and mustard poultices to the region of the heart. These symptoms increased daily until June 6th, when he died, in full possession of his mental faculties, at the age of thirteen months.

Autopsy.—Twenty-four hours after death, on removing the integuments from the scalp, the occipital tendon presented a dark livid hue. The coronal and sagittal sutures not closed; anterior fontanelle very large; the cranial bones very thin. On taking off the calvarium the dura mater appeared healthy. The hemispheres of the cerebrum engorged with blood, arterial and venous. The cerebrum soft, and spotted with blood on slicing. The lateral ventricles were found filled with a transparent fluid, extending through the third and fourth ventricles to the spinal column. Thorax and abdomen healthy.

CASE III.—*Restlessness and General Indisposition—Bandage to Head—Recovery.*

April 3, 1837. — Mrs. W——d, from the neighbourhood of Cheapside, London, consulted me respecting her child, aged fifteen months. He had gradually lost flesh during the last five months, was unable to walk, was peevish, restless; appetite irregular. The evacuations from the bowels were green and slimy; the urine high coloured, and frequently voided.

The child had been fed, as it is to be regretted many are, on tea, beef, beer, &c. and indulged with the breast at the same time, while the poor mother is every morning nearly blind with exhaustion. The countenance of the child was animated and intelligent; the head large, and prominent over the eyebrows; the limbs small, body large, and spine

weak. On examining the bones of the head I found the coronal suture not closed, and the anterior fontanelle much enlarged. In this case I ordered an elastic belt to be made of the coutchouc webbing, and applied round the head, passing it over the anterior portion of the frontal, over the upper edge of the temporal, round the ridge of the occipital bone; this was prevented slipping, by a crucial strap over the top of the head. The child to be weaned, and to live on bread and milk, with one ounce of lime-water per day. In three weeks the child became healthy, slept well, and ran about; at the end of the sixth week the bandage was left off, the bones being closed and firm.

CASE IV. — *Oppressed Breathing — Emaciation, &c.*

May 8th, 1837. I attended the daughter of William D——n, aged fourteen months, and found her suffering from oppression of breathing, general emaciation, chill and heat *without* perspiration twice a day; pulse feeble, small, and quick; no appetite. The bowels passed off slimy offensive motions; urine pale, and small in quantity. The mother, who appeared exceedingly enfeebled, was allowing the child to suck, and, to use her own words, “until the last month past the child ate and drank any thing.” The coronal suture I found not closed, but with serrated edges, demonstrating that it had been closed, but had become disunited, the frontal bone projecting. My attention was of course directed to the congestive state of the lungs and febrile action, and its cause, namely, improper diet. I prescribed two leeches and a blister to be applied to the chest, and a powder to be given the child, composed of Hydr. c. Creta gr. ii. Pulv. Ipecac. gr. $\frac{1}{2}$, every three hours, and to assist in giving support to the bony compage of the cranium, an elastic belt to be applied round the head. On the second day the difficulty of breathing increased, with decrease of strength, and manifest evidence of serous effusion in the pleura. Early on the third morning the child died. I had no opportunity of making a post mortem examination.

Your insertion of the above in the MEDICAL GAZETTE, will oblige

Yours most respectfully,

JOHN GRANTHAM.

Crayford, Kent,
Aug. 11th, 1837.

EMPHYSEMA FROM THE BURSTING OF THE LUNG—RECOVERY.

MEDICAL GAZETTE.

Saturday, September 16, 1837.

To the Editor of the Medical Gazette.

SIR,

THE following case of emphysema will, I think, prove interesting, as I find that recovery under similar circumstances is extremely rare, and in this particular case it appears perfect.

I am, sir,
Your very obedient servant,
GEORGE S. LILBURN.

24, Harley-street,
Sept. 12, 1837.

At the latter end of March last, I was called to attend the child of a gentleman residing at Stamford Hill, in consultation with a highly respectable medical practitioner in that neighbourhood, who had seen him from the commencement of the attack of hooping-cough. The little boy, about four years old, was lying in a state of coma consequent upon convulsions. The emphysema appeared about the left clavicle, and in a few days extended through the cellular texture of the whole body, and was so extensive over the abdomen and ribs, as to raise the skin at least one inch in this situation. From the puffed appearance of the face, the child's friends could not recognize him.

The principal of the treatment consisted in keeping the child as quiet as possible; giving a solution of tartar emetic, with tincture of foxglove, in frequently repeated doses, to reduce the circulation and respiration to the lowest possible ebb; and having the bowels relieved daily with a gentle cathartic. The diet was confined to one pint and a half of asses' milk per diem.

After about a fortnight the crepitus began to subside, and continued to do so, gradually but slowly, until it entirely disappeared.

I discontinued my attendance in May, but have seen the child occasionally since; he appears to be quite free from any bad effects from the complaint.

"Licet omnibus, licet etiam mihi, dignitatem Artis Medicæ tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

FALLACY OF ANIMAL MAGNETISM.

IN another part of the present number will be found an abstract of the report, lately made to the French Academy of Medicine, by the Commissioners whom they had appointed to inquire into the subject of animal magnetism. It comes opportunely to neutralize the effect which recent reports of the wonders accomplished by this means at the North London Hospital might have on some persons' minds, especially when they are supported by the authority of the Professor of Medicine in University College*.

To those who carefully peruse the report of the French Commissioners, at page 918, comment will be almost superfluous. M. Berna, the magnetizer on this occasion, if not himself pitifully deceived, and blind to every possible conviction supplied by his own experiments, is an impudent charlatan, and his somnambules, if they did not dupe him, were his accomplices. One or other of these conclusions must be drawn from the recital contained in the report; for as to the charges of prejudice and partiality brought against the Commission by some supporters of the theory, they are too absurd to be attended to by any one who knows the Commissioners either by name or by their works. M. Dubois, the author of the admirable criticism, in the *Revue Médicale*, on M. Husson's report, and M. Bouillaud, who had also written against Mesmer-

* See a lecture on the subject, published by Dr. Elliotson, in the last number of the *Lancet*, in which he professes his belief of Mesmerism.

ism, are fully counterbalanced by M. Jules Cloquet, the author of the case in which, during somnambulism, he is said to have removed a cancerous mamma without producing pain, and M. Oudet, who drew the tooth in the case which recently excited so much attention in Paris. A more admirable union of men of varied pursuits, of talent, and of judgment, with less predominant prejudice, peculiar notions, or theories of their own to support, could scarcely be found. Every word of their *unanimous* report deserves to be recorded, and testifies plainly the total failure of the theory.

Now as none of those who have attempted since the report to uphold the credit of the system have advanced any objection against M. Berna as a fit representative of the opinions, or skilful practitioner of the art of Mesmer, we have a right to conclude that the experiments he made were at least of average excellence, and therefore, saying "*Ex uno disce omnes*," might conclude that their failure is a sufficient proof of the absurdities of the system they were intended to support. This, however, we will not now do, because we know that it might be advanced, that the failure of an individual should not be deemed sufficient to invalidate all the evidence of others. It would, however, be more satisfactory if those who still remain supporters of the theory could show the cause of the failure of M. Berna; if not either in his own inefficiency, or the absence of the proper conditions in his somnambules, it must lie in the system. But of him no complaint is made; and with his chosen subjects, *he* was evidently perfectly well satisfied.

Assuming, as we believe there will not be a shadow of doubt in the mind of any reasonable person, that M. Berna was attempting a series of gross impositions on the Commission, we

would strongly urge the consideration of how much of the pretended evidence in favour of the theory is of the same character. Here is a person prevented from laying any unfair plans, and subjected to the most constant and rigorous scrutiny of accurate observers, whose tricks were yet not all easily detected. Then what reliance can be placed on the details furnished by those who witness experiments for which plans in any way concerted could without difficulty be laid, and of which accurate scrutiny is not permitted to be made even by those quite incapable of drawing correct conclusions from what seems to be the evidence of their senses? We need not particularize all the pretended facts of the magnetizers which we would place among this class of wilful and concerted frauds, but they form altogether the larger portion of the literature of the theory.

Among such statements are all those relating to the transference and exaltation of the senses; as where sealed letters were read at the epigastrium, while the eyes were perfectly closed; where the hour was told from watches lying in adjoining rooms; where the interiors of distant houses were seen, and the things then going on in them described; and where the topography of places never visited was minutely detailed.

We should at all times be content to return to such statements as these, the answer which Paley returned to a fool inquiring the explanation of some less palpable nonsense—"Sir, the problem's a lie." In fact magnetizers only render themselves more eminently ridiculous when they attempt to interfere with physical impossibilities. They may occasionally *bother*, when they deal with phenomena explicable only by reference to vital laws, of which we know so little; but we do at least know some of the laws by which the propagation and modifi-

cation of light and sound are governed; and we do know, that light, the only means by which the form and colour of objects removed from touch can be made sensible, cannot be transmitted through a brick wall, or a well-tied bandage over the eyes. Now even supposing that it could perform such a feat of penetration as either of these would require, we are equally certain that after its passage through opacity, it could not produce an impression upon the retina, unless modified by a passage through the various media of the eye—an apparatus which is not less necessary to the impression of light on nerves, than is the light itself. And again, if these obstacles were overcome—that is, if light could pass through opaque bodies, and if eyes were not necessary for vision—it is not in the smallest degree consistent with verisimilitude that the nerves of the epigastrium, or any other nerves of common sensation, or that the sympathetic could receive or convey any condition impressed on them by light, to which the optic nerve alone is sensible. Here, then, are *at least* two impossibilities, and one extreme improbability, involved in the most prominent and most numerous class of facts brought in support of animal magnetism. Let any of the three be overcome, and we will cease to regard all such tales as impudent or ignorant fabrications.

By putting aside thus much as absurd, the subject for consideration is reduced to a narrow compass, and may be indulged for a short time with a rational argument. The only statements at all worthy of attention may be considered in endeavouring to answer this question,—Does there exist any peculiar principle capable of being developed by manipulations, or the silent and externally imperceptible action of the will of one person, which is capable of

producing sleep, somnambulism, or the anomalous symptoms of ecstasy, in another? (We hope we here state the question rightly; we would quote from some magnetic author, but that their technical terms are so rarely intelligible to the uninitiated, and so indefinite, that it would be useless).

Now it is certain that we could not deny that sleep, somnambulism, and ecstasy, have followed the practice of magnetism, without applying very hard names to many worthy persons who testify these things; to many of their cases, however (and to that of the Irish girl, in the *Medical and Physical Journal*, among the rest), we would say as M. Velpeau said to M. J. Cloquet — “*Je le crois parceque vous l’avez vu, mais si je l’avais vu moi, je ne le croira pas.*” We will allow, therefore, that there has been such a sequence of facts, and that the magnetizer’s actions have seemed to be the cause of sleep, and the other effects above mentioned. But when we admit this, we would not in any future inquiry engage to believe all the cases even of this simple kind which might be presented, till we were perfectly secure that *every* possibility of deception was removed. And we cannot but observe with suspicion, that no one ever comes forward to practise mesmerism, who is in the slightest degree known in the scientific world, or who by his works and writings does not shew himself to be totally ignorant of every thing connected with the living body in health or disease. Nay, even of its supporters, we are not aware of any persons of repute, except M. Cuvier and Dr. Elliotson, who have ever said a word in favour of it. M. Husson and M. Rostan would scarcely have been heard of but for it; and of those who practise or support it in Germany, there is not one with a reputed

name. Cuvier's assent was given in terms of but faint praise, and we do not hesitate to think that he was by no means the most fit to form a correct judgment on it, wholly unused as he was to the observation of the varied forms which disease will assume, as produced or modified by mental impressions. As for Laplace's remark, which Dr. Elliotson adduces, it is merely one of caution against too rashly disbelieving inexplicable phenomena, and bears no more authority in favour of the theory of animal magnetism, than of any other in existence.

Besides, we are not convinced that such sufficient testimonials have yet been produced of the credibility of the cases at present before the public; for we happen to be acquainted with rather a singular circumstance which preceded the visit of the magnetizer to the University College Hospital. He had been introduced at the Middlesex Hospital, and there, on several successive days, and in presence of the physicians, surgeons, and numerous visitors, he selected a few hysterical girls on whom to try his powers, but entirely in vain—they were scarcely even frightened; like most of M. Berna's, "*l'expérience était manquée.*" Some one present laughed, and whispered, "Send him to the North London,—he'll succeed there." To that institution he accordingly went, and the prediction has been completely fulfilled. We know not whether there be a clause in the laws of Mesmer which will explain why his practices should succeed better in the one hospital than the other, especially as this case is in exact opposition to the observation of M. Thouret, in the report of 1784, that where *Universities* existed, "the contagion of magnetism was always arrested." He mentions this as creditable to science and learning;—*tempora mutantur*, and with them the Universities.

Believing, however (in order to have a case before us for immediate reference), that Dr. Elliotson is not deceived by any unfairness in the experiments, we can still see nothing in his recital, or in any other of the credible part of the evidence for animal magnetism, which needs in the smallest degree the supposition of the existence of a new agent for its explanation. There is no more mischievous or mistaken spirit in philosophy, than that which is always seeking, on the appearance of new phenomena, for new principles to explain them, rather than attempting to refer them to others before established, and which are known to give rise to more or less similar effects. The great probability is in favour of the opinion now generally received, that in all sciences the further progress of observation will lead, not to the discovery of new principles and causes of action, but to the reduction of the number of those whose existence is at present admitted—to a greater concentration of phenomena under a very few extensively operating causes. The whole course of modern discovery has led toward this conclusion, of which we need only adduce one example, in the proof of the unity of the agent producing the effects formerly attributed to three different agents, in electricity, galvanism, and magnetism; and the probability that chemical phenomena are owing to the same cause, acting under certain modifications.

And even without considering the improbability of the existence of another principle in animal bodies, acting in so uncertain a manner that the effects which will result from the employment of the same manipulations, in different cases, can in no way be reckoned on, we can find nothing in the facts (the *verités veritables*) of the cases, which is not explicable by regarding them as the result of an impression made on the imagina-

tion—the influence of particular impressions on the senses—or the force of imitation*.

To take, for example, the phenomenon of sleep, supposed to be produced by magnetic influence; the sufficiency of a mental impression to produce this, is well established by a number of facts. To take one from their own Archives, in the history of the Abbé Faria's experiments, as related by M. Bertrand. His method consisted simply in placing his patient before him in an arm-chair, telling him to compose himself and shut his eyes, and then saying, imperatively, "DORMEZ!" And by this, without any manipulation, some thousands were put to sleep. Should an ultra magnetist say, this was the effect of the exertion of his will, we would add M. Bertrand's own experience, that he had produced all the usual effects of magnetizing on many persons whom he subjected to the usual ceremonies, whether he *willed* it or not; and he, after considerable, and what magnetizers would call successful experience, confessed the entire agency of the imagination.

Thus, then, impressions on the mind are sufficient to produce sleep in some persons, and these as numerous as the supposed magnetic influence can thus afford; and M. Bertrand, acting on the mind, could produce in the morbidly sensitive somnambule symptoms. But it may be said, sleep is producible where the imagination cannot act, as in children (though *very rarely*), and as in Dr. Elliotson's parrot, which went to sleep at an unusual time of the day when its back was stroked. But had the Doctor scratched his cat's head, or rocked a child's cradle, sleep would in like manner have been produced at other than bed-time, and this, we humbly submit,

without magnetic influence. We must confess ourselves to have frequently been put to sleep by dull lecturers, who had as little magnetic as any other attraction; some fall asleep when the winds howl; others on the rocking of a vessel; others when they gaze on leaves that quiver; others when any person, magnetizer or not, gently strokes some sensitive part of the body; in short, any monotonous impression (if we may so call it) on any of the senses, has a somniferous influence, and many of them, (as dull lectures and sermons), are of far more general influence than magnetic manipulations—for they affect all sexes, ages, and temperaments.

Again, as all the world knows that persons yawn in succession and by imitation, so they may also fall asleep; in short, in all the cases we have read, one or more of those three causes was always present, and was quite sufficient to have produced the effect. And if sleep may be produced, so in still rarer cases, as M. Bertrand has shown, may somnambulism. This is, in fact, to many persons, almost as habitual as common sleep to others; in many more it occurs only under strong mental excitement—in the majority of mankind never at all: and so it is with magnetic somnambulism; it is never stated to be produced except in those of peculiarly susceptible minds; and Dr. Elliotson has himself shown, that no phenomenon takes place in magnetic which does not also occur in common somnambulism.

But to go to the furthest which there is the slightest authority in support of—the production of catalepsy, or of ecstasy, by magnetism, here again we only see phenomena similar to those occurring in common diseases, and sometimes produced by mental impressions, and by imitation. In a word, all the most complex of the credible effects of magnetism are

* We would adopt verbatim the conclusions of Bailly's report in 1784—"the touchings, imagination, imitation—such are the true causes of the effects attributed to this new agent, known under the name of animal magnetism."

precisely like the effects of impressions made on the mind, and, as in all such cases of presumed magnetism, violent mental influences are exerted, we have full right to regard them as the causes: indeed we know, that from the same causes arise even more remarkable phenomena—they influence the secretions, and many other vital acts—as in the flow of tears, in erection, in the production of diarrhœa, of jaundice, of convulsions, and numberless other things. We can neither laugh nor cry, be startled or soothed, provoked or pacified, without seeing the immense influence of the mind, and thus contradicting Mesmerism. Convinced of this, we hold that the subject should be at once rejected; we have already sufficient and more valuable evidence of the mind's influence on the body, and except for affording this—*cui bono?* We scarcely doubt but that it will be entirely refused admittance into the minds of any except the credulous and the idle: but should it receive the attention of those whose opinions are not marked by these characters, and should any such opinions be more favourable to it than our own, we shall not fail to support the general observations we have made on it, by a more detailed reference to the facts on which they are grounded.

REPORT ON ANIMAL MAGNETISM,

MADE TO THE

Royal Academy of Medicine in Paris,

August 8th and 22d, 1837.

THE Commission met for the first time on the 27th of February, 1837. The rendezvous was appointed at M. Berna's own house. The Commission was composed of MM. Bouillaud, Cloquet, Caventou, Cornac, Dubois (of Amiens), Emery, Oudet, Pelletier, and Roux. M. Roux was chosen President, and M. Dubois, Secretary and Reporter. After a long but amicable discussion as to the course to be adopted, it was agreed by the Commissioners and M.

Berna, that the experiments should take place at M. Roux's house, and that no strangers, except the persons to be the subjects of experiment, were to be admitted into the room.

On the 3d of March the whole Commission, except M. Oudet, met at 7 in the evening. At a quarter to 8, M. Berna introduced a young girl of 17 or 18, of a constitution apparently nervous and delicate, but with an air sufficiently cool (*dégagé*) and resolute.

The programme of the evening's experiments, which we had sent to M. B., presented eight experiments. The following are their titles, literally copied, for the language does not belong to your Commissioners*.

1st, Somnambulism.

2d, Proof (constatation) of insensibility to pricking and tickling.

3d, Restitution, by the mental will, of the sensibility.

4th, Obedience to the mental order to lose motion.

5th, Obedience to the mental order, to cease answering in the midst of a conversation; and to the mental order, to answer again.

6th, Repetition of the same experiment, the magnetizer being separated from the somnambulist by a door.

7th, Waking.

8th, According to the mental order which shall be enjoined in the somnambulist state, persistence in the restoration of the sensibility, and also persistence of the power of losing or recovering this sensibility at the will of the magnetizer.

The young girl introduced to your Commissioners was received with caution and affability: we conversed with her on indifferent things, and then, to determine, before any attempt at magnetization, how far she was in her ordinary state sensible to pricking, needles of moderate size, brought by M. Berna himself, were stuck in to the depth of about half a line. Their points were made to penetrate into the hands and neck of this young person, and then, when asked by some of the Commissioners, with an air of doubt, if she felt the pricking, she answered positively to M. Roux and M. Caventou, that she felt nothing; her figure, moreover, did not express any pain. Let us remind the Academy, that she was at present perfectly and normally awake, by the confession even of her magnetizer, who had not yet commenced any of his manœuvres. This scarcely agreed with the programme, for the insensibility ought not to have been acquired till in the state of somnambulism, or after and by

* And is therefore not easy of translation.—*Trans.*

the mental injunction of the magnetizer,—an injunction which could not be given except in this state.

Your Commissioners were a little surprised at this singular commencement. What! do you feel nothing? they said to her. But are you absolutely insensible?—Then she finished by confessing that she felt a very little pain.

These preliminaries completed, M. Berna made her sit close by him. *Tête à tête* with her, he appeared at first to contemplate her in silence, without practising any of the movements called *passes*; after a minute or two, he said to your Commissioners, that the subject was in somnambulism.

The girl's eyes were covered with cotton and a bandage.

M. Berna had no other proofs to give your Commissioners of the pretended state of somnambulism, which, besides, he did not define theoretically, than the experiments comprised in his programme. Then, having again contemplated his somnambule at a very slight distance, he announced that she was struck with general insensibility.

What now could be the part your Commissioners should perform? Physicians, surgeons, natural philosophers, all knew that the proofs of the abolition of sensibility are of two kinds; that the one are deduced from the assertions of the subjects—the others from the signs of the external deportment—the language of action. Now the first might be considered as null, when concerned with individuals whose interest is to deceive and lead into error. The mute signs drawn out by pain remained; but then, on the one hand, the intensity of the pain, and on the other the firmness of the patients, had to be taken into consideration. In the present case the intensity of the pain was not to pass certain limits rigorously fixed by M. Berna.

However, some of your Commissioners, armed with needles, among others MM. Bouillaud, Emery, and Dubois, set them to prick the poor girl. By word she complained of no pain: her features, as far as we could judge, expressed no painful sensation;—we say as far as we could judge, for her eyes being covered with a large bandage, half her features were concealed from us,—we had scarcely any thing left to observe but the forehead, the mouth, and the chin.

M. Bouillaud, in his trials, did not go beyond the agreed limits; but the reporter, having stuck the point of his needle under the chin with more force, the somnambule made at the moment, and with vivacity, a movement of deglutition. M. Berna perceived it, and gave new cautions.

Touched with the end of the finger by

M. Cloquet in the surface of the hand, the somnambule said she felt this impression; so that independently of the perception of temperatures, she had still preserved that of touches,—which, in the system of M. Berna, would add new restrictions to this pretended general loss of sensibility. However, the magnetizer, pursuing the course of his experiments, told the Commissioners that he was going, by the sole and tacit intervention of his will, to paralyse, either from sensibility or motion, any part of the girl's body that they would wish. The following conditions were then made:—

That M. Berna should maintain the most perfect silence, and should receive from the hands of the Commissioners, papers, on which should be written the parts to be deprived of or endowed with either sensibility or motion; and that he should let them know by closing one of his eyes that it had been done, and that they might verify it. He said he could not accept these conditions, and gave for reason, that the parts pointed out by the Commissioners were too limited, and that besides all this was out of his programme, and he did not understand thus the precautions that would be taken against him.

Your Commissioners had written—1st, to deprive the chin of sensibility; 2d, the right thumb; 3d, the region of the left deltoid; 4th, that of the right patella. M. Berna had written in his programme, that to show us the sufficiency of his action, he would raise his hand towards us, and that this should be the sign in this experiment as in all the others. This was one of the precautions he had planned; but as your Commissioners took good care to look to all these points, they thought they might require of M. Berna, that instead of raising his hand for a signal, he should be content with closing one of his eyes.

As to limits, M. Berna had pointed them out in his programme. For sensibility—1st, the whole of the body; 2d, a part of the body only. For motion, he had written—*a*, the two arms; *b*, the two legs; *c*, an arm and a leg; *d*, a particular arm and leg; *e*, the neck on the right or left side; *f*, the tongue. But here we must explain to the Academy what M. Berna understood by paralysis, and by the verification of this paralysis.

All the evidence the Commissioners were allowed to have of its existence, was, that when told to raise her arm, &c., the somnambule did raise it or not; in the latter case—that is, if when told to do it, she did not raise her limbs or move her head, or talk—she was to be considered as paralysed by the tacit will of M. Berna, and that all this depended on the agency of animal magnetism. Besides this, the

Commissioners were to make haste with their observations. If the first trials did not succeed, they were to be repeated till paralysis was produced—very good plans for the public, but such as men of science, who were to give an account of their commission, could not exactly comply with. M. Berna then said he would do no more at this meeting, but would wake the somnambule, and at the same time restore her sensibility. M. Bouillaud, at his invitation, was first to place himself behind the girl, ready to prick the back of her neck when the magnetizer gave him the signal. He, M. Berna, placed himself opposite the girl in the same position as the first time. Wake! said he, twice. Then he raised the bandage and the cotton from her eyes, leaned towards her again, put his left arm behind her, and stopped M. Bouillaud, who was of course going to prick her too soon; then leaning towards the girl again, whose eyes were perfectly open, he looks at M. Bouillaud; that Commissioner then pricked the somnambule, who turned her head aside, and M. Berna cried out—There, the sensibility restored! Your Commissioners make no reflection on the value of the facts which M. Berna had shewn them.

SECOND MEETING.

At half past eight in the evening the same somnambule and all the Commissioners being assembled, and the somnambulism having been produced, M. Bouillaud requested in writing that M. Berna would have the goodness to paralyse the right arm only of the girl, and when it was done to indicate it to him by closing his eyes. M. Berna, then sitting near the girl, lowered his head towards her hands, which she held in her lap. The reporter, led by what M. Berna had said, viz. that there should be no contact either immediate or mediate between him and the somnambule, interposed a sheet of paper between his face and her hands.

Presently M. B. made the agreed sign, that his silent will had been sufficiently powerful to paralyse the right arm only of his somnambule. M. Bouillaud proceeded to verify the fact, and for this purpose asked the girl to move successively this or that limb; when he came to the right leg, by way of elimination, as one may say, she answered that she could not move either the right leg or the right arm.

Remember that M. Berna's programme stated that he had the power of paralyzing either a single limb, or two limbs at once; we chose a single limb, and there resulted by his own confession, spite of his will, what he called a paralysis of two limbs. The experiment missed, and it was neces-

sary to pass to another; for we had not the politeness, notwithstanding the terms of the programme, to re-commence till it succeeded, which certainly must have been soon, since we had only to choose between four limbs and the tongue.

On the 13th of March, at half-past seven in the evening, another meeting was held, and the same proceedings were gone through. "Remove from your somnambule," wrote M. Bouillaud on a piece of paper, "remove the power of hearing me, while you stand behind M. Dubois, and then, touching his shoulder, let me know that it is done."

The magnetizer agreed, but wished that the somnambule should be placed very near M. Dubois, who was to act as a screen, and that she should be a foot off him. This was punctually done; the reporter (M. Dubois) made M. Berna go behind him, and hid from him, at least in part, the somnambule, while M. Bouillaud conversed with her in the situation just mentioned; but long before the magnetizer had made the agreed sign, she seemed no longer to hear M. Bouillaud, which shewed that the magnetizer's will had acted quicker than he thought; but when the signal was given, then she begins to answer M. Bouillaud, which was precisely the contrary of what ought to have happened.

But as the magnetizer had from the first moment of his transactions with us spoken of these marvellous facts of vision without the assistance of eyes, and of those famous transpositions of the senses, so much talked of in the archives of animal magnetism, you may imagine how desirous we were of seeing such experiments; never had any thing like it been tried before an academic commission.

On the 3d, your Commissioners met again, and witnessed the following facts:—At eight in the evening we met at M. Berna's. He was placed by the side of a woman aged about 30. After our arrival, he covered her eyes with a band, and then told us that she was in a state of somnambulism, and began to talk aloud with her.

Interrogated by her magnetizer (for none of us spoke at this meeting)—interrogated if she saw what was passing around her, this woman declared, that to distinguish objects better, she must turn so as to face him. M. Berna approached her, so that their legs touched, notwithstanding what was said in the programme; but still a blow, this was secondary for facts of vision, without the assistance of eyes.

Your Commissioners, attentive to what was passing, were, however, penetrated with this idea, that in this sitting there

would be two kinds of facts—1st, Those whose solution was proposed to the woman said to be in somnambulism, but which were known to M. Berna. 2d, Facts whose solution was also proposed to her, but which were unknown to M. Berna, and which would be in part arranged without his knowledge. The latter would have a great value, an absolute value, independent of localities and the morality of the actors, and ought to carry conviction with them. The others would remain subject to various interpretations—to objections more or less founded, and therefore might leave doubt in the mind. Thus, to cite a first instance, the magnetizer commenced by asking the woman how many persons there were present? Several gentlemen, she answered; at least five. This first fact was as well known to M. Berna as to us; and we may add that, approximatively, she herself might know it, since her eyes were not covered till after our arrival.

At the invitation of the magnetizer, who directed every thing in this solemn sitting, the reporter was to write on a card one or several words, that the somnambule might read them. The Commissioners, thanks to the officious care of M. Berna, had at their disposal, on a table, two packs of cards, one perfectly plain, the others playing cards. Thus you see the order of the sitting had been obligingly regulated by the magnetizer; there were no more of those hesitations and those uncertainties which had in some measure disturbed the other sittings; here every thing was arranged beforehand.

However, the reporter wrote on a blank card the word *PANTAGRUEL*, in printed and perfectly distinct letters; then placing himself behind the somnambule, he presented the card close to her occiput. The magnetizer, seated opposite M. Dubois—that is, in front of the woman—could not see the characters traced on the card; it was a fact of the second order, mentioned above, that is, decisive in itself.

The somnambule, interrogated only by her magnetizer as to what was put behind her head, answered, after some hesitation, that it was something white—something resembling a card—a visiting card. Hitherto, as you may believe, there was nothing to surprise us. M. Berna had said aloud to the reporter to take a card, and write something on it. The somnambule might therefore say she saw something white, like a card; but as soon as she was asked if she could distinguish what there was on this card—“Yes,” answered she firmly, “there is writing on it:” an answer which again did not surprise us. “Is it small or large, this writing?” “Pretty large,” she replied. Here,

as you see, the serious difficulties commenced, and the somnambule resorted to approximations. “What is written on it?” continued the magnetizer. “Wait, I cannot see plain. Ah! there is first—an M,—yes, ’tis a word beginning with an M.” Such were the first answers of the somnambule.

M. Cornac, unknown to the magnetizer, who alone put questions to the somnambule, then passed a perfectly blank card to M. Dubois, who immediately, and unknown to M. Berna, substituted it for the one which had the word *Pantagruel* on it. The somnambule still persisted in saying that she saw a word beginning with M.—M. Berna, who did not suspect in any way our contrivance, still pressed her with questions; she was invariable; she could only, she said, distinguish a single letter, an M. At last, after some efforts, she added, with some doubt, that she saw two lines of writing.

MM. Oudet and Cornac were then placed behind her; she said she could see one of these gentlemen, M. Cornac. She was asked if he was large? Not very, said she—not so large as you. She was speaking to M. Berna, who alone conversed with her.

M. Cornac, with the consent of the magnetizer, presented in his turn a card to the occiput of the subject, on which he had written the word *Aimé*. She distinguished, she said, some writing, but could not say what it was, what it signified. M. Cornac drew a long purse from his pocket. It is something round, she said: then putting his purse in his pocket again, he presented his hand alone. She said she still saw something round.

After these first attempts, the somnambule complained of being dazzled; that she was annoyed by light. Yes, answered the magnetizer, by fogs, wait—and by means of some fresh passes, he said he had relieved her.

The reporter charged with taking notes, was writing at this moment within two steps of the somnambule: the point of the pen was heard running along the paper; the somnambule turned aside and raised her head, as if endeavouring to see under the lower edge of her bandage. The magnetizer quickly asked if she saw that gentleman. Yes, she said, he is holding something white and long (the reporter was writing on a paper longer than broad.) He then approached the somnambule, placed himself behind her, and ceasing to write, put his pen in his mouth. M. Berna then interrogated his subject in the same manner, that is on facts of which he had knowledge as well as we. Do you still see, he said, that gentleman behind you? Yes, said she. Do you see his mouth?

Not very well. Why? There is something white and long across it. The magnetizer cast a look of satisfaction towards us, and recommended the reporter to make special note of this fact.

We have taken care not to forget it; but what is its value or importance in relation to the doctrine of animal magnetism? On the one hand, the somnambule knew that she had turned towards some one writing; the distinct noise of the pen on the paper was enough to make this certain, even admitting that she had not seen under her bandage, a trial which she made without opposition on our part; because, as we have already said, we wished to let the magnetizer act without the least appearance of constraint. The reporter still writing, placed himself behind the woman, and then only ceased to write, and put his pen between his teeth. The magnetizer did not take another commissioner for the subject of his questions; but addressed to the somnambule, assuredly without wishing it, a question too indicative—too particular. Do you see that gentleman? Well: but why say—Do you see his mouth? What is there in his mouth? the somnambule might at once ask herself. He has been writing—he has placed himself behind me while writing—can it be his pen that he has put in his mouth?—it is something white and long.

These reflections came at once into our minds, and removed from this fact the value which it might perhaps have had without these circumstances.

In the facts which are about to be presented to you, things could not go on in this manner; varied interpretations were not possible: let us see what was the result.

On a fresh invitation of the magnetizer, M. Dubois wrote in large letters on a card of the same size as the first, a single word—*MISERE*, without letting the magnetizer know what it was, and presented it for the somnambule to make out, placed as usual at her occiput. M. Berna's request had been made aloud; the somnambule did not fail to say, without hesitation, that she saw a card, and that there was writing on it. Solicited as before, she seemed to make efforts to distinguish the letters; at last, after great hesitation, she said the word began with a T. The reporter substituted a blank card, and presented it; but neither the somnambule nor the magnetizer could in any way perceive the substitution. Interrogated as to the number of letters, she said she saw five or four. We have said the card was perfectly blank.

Now, gentlemen, we are coming to facts more decisive, more curious, and in

which the lucidity of the somnambule was to appear in full evidence. We have already said that M. Berna had prepared on one of the tables in his apartment a pack of playing cards. This time, again addressing the reporter, he asked him aloud, and without leaving his intimate relation with the somnambule, to take a playing card, and place it at her occiput. Is it to be a court card? asked the reporter. As you please, answered M. Berna.

This perfectly natural question the reporter had made at first without reflection, quite innocently; but as he went towards the table on which the pack of playing cards had been previously laid out, the idea struck him not to take either a court or a common card, but while pretending to take a playing card, to take instead, a perfectly blank one of the same size, still unknown to M. Berna, and we need not add, to the somnambule, since she could not perceive substitutions made an inch from her occiput, to which her vision had been transposed.

Then, with his blank card, the reporter placed himself at her occiput, and held it behind her. The magnetizer, seated before her, magnetized with all his force. The somnambule is interrogated,—hesitated,—made efforts, and said she saw a card; but the magnetizer was not, any more than we, contented with so little. He asked her what she remarked on the card? She hesitated, and then said there was black and red!

The Commission let M. Berna continue his manœuvres and his solicitations, that he might clear what still appeared very confused, before the woman's transposed sense, and which as yet consisted only of a little black and red. After some fruitless essays, the magnetizer, undoubtedly but ill satisfied with the functions of the transposed visual sense, invites the reporter to pass his card before the head of the somnambule, close to the band covering her eyes: this was, it may be said, changing the terms of the question, and even of the magnetic doctrine; it was giving up the transposition of the senses, to substitute *clairvoyance* through a bandage. But it mattered little: the reporter passed the card as the magnetizer wished, but he took care to pass it quickly, and so that M. Berna might suppose he saw only the naturally white back of the card, while the coloured part was turned towards the somnambule's bandage.

The card once in this new position, the magnetizer continued his manœuvres, and solicited the somnambule. She confessed that she saw the card better; then added, hesitating, that she saw a figure. New urging from M. Berna,—new solicitations! The somnambule, on her part, seemed

making great efforts. After some trials, she declared plainly that she saw a knave!! But this was not all: it remained to say what knave, for there are four. Proceeding, without doubt, by way of elimination, she answered her magnetizer that there was black by the side of the knave. Still this was not all: there are two knaves with black at their sides. New urging by the magnetizer,—new efforts by the somnambule,—new and profound attention by the Commissioners. At last she has it.—It is the knave of clubs!

M. Berna, thinking the experiment finished, took the card from the reporter's hands, and in presence of all the Commissioners, sees and assures himself that it is entirely blank.

As a last operation, leaving both the writing and the playing cards, M. Berna asked M. Cornac for an object he had brought with him, adding, that he would present it in his closed hand before the somnambule's bandage. This object, which we do not mention the name of yet, was given by M. Cornac to M. Berna, and he, with one hand, presented it close to the somnambule's bandage, and with the other endeavoured to act magnetically on her, and then recommenced the inquiries, solicitations, urgings, &c. She, who had not lost courage, appeared to make great exertions. Her magnetizer asked her if she could distinguish what he had in his hand. Wait! said she. Then, after these feigned or real uncertainties, she said it was something round: then, still pressed with questions, she added, that it was flesh-coloured,—that it was yellow,—and, lastly, that it was of the colour of gold. At new and incessant questions, she added, that it was about as thick as an onion,—that it was yellow on one side, white on the other, and that, lastly, there was black above it.

Here she complained, and wished, she said, that her magnetizer would finish and wake her: she urgently asked it. Not yet, answered M. Berna,—when you have answered my questions; and then he agitated his hands before her, to drive away obscurities and fogs. Pressed anew to tell the name of the object presented to her, she repeated that it was yellow and white. Do you say it is white? asked M. Berna. (Here the Commission incidentally remarked, that M. Berna was perhaps wrong in recalling only the word white: there was in this, as you will presently see, something too indicative—too special.) But the somnambule said positively yellow on one side, white on the other, with black above.

Have you, said M. Berna, such an object? No, said she. Have I? Ah! yes,

you have that. But, rejoined he, if you had it, what would you do with it? I would put it on my neck. Solicited, for the last time, to explain herself better,—to say at least the use of the object, if she could not tell the name,—she seemed to collect all her powers, and then uttered only the word *hour*; then at last, as if suddenly illuminated, she cried out, it was to see the hour. M. Berna returned M. Cornac the mysterious object: it was a silver medal, of the weight and size of a piece worth three francs; on one of its surfaces there was a caduceus, on the other two capital letters.

Thus ended this sitting. Some difficulties have since arisen between the Commission and M. Berna, who wished that a copy of the *procès-verbaux* should be given him; and in consequence of the refusal he met with, refused in his turn to proceed to fresh experiments.

[To be concluded in our next.]

HÔPITAL LA PITIÉ.

COMMUNICATED BY H. CURLING, Esq.

[Continued from page 890.]

CASE VI.—*Pneumonia—Gangrene of the Lungs—Death.*

AN old man, aged 80, was admitted a patient under M. Louis, with all the symptoms of the influenza. He was unable to answer questions; but it was ascertained that, previous to the present illness, he was in perfect health, and had had no cough. The sputa were not characteristic of pneumonia; but upon percussing the chest there was a dull sound superiorly and posteriorly on the right side, with bronchophony and bronchial respiration; there was also a very large mucous râle, almost amounting to gargouillement. His pulse was quick and feeble; but he was bled to 3vj., which afforded some relief. His strength not permitting further bleeding, tartar emetic was prescribed; but he gradually sank. Three days before his death the sputa emitted a fetid odour, but not exactly that of gangrene.

Autopsy.—The borders of the right lung were rounded; its base elastic, and by no means hard. The air-vesicles were evidently dilated. Superiorly the lung had contracted adhesions; posteriorly several yellow spots were seen between the lobes. The lung was of a rose colour; the false membranes were soft, and apparently of recent date. The bronchi were of a very deep red colour, thickened, and lined by a false membrane; some opened into two cavities, each the size of a small egg. Both were lined by a yellow false membrane, and in the centre were portions of

lung broken down; they emitted a very foetid odour. The lung surrounding them was red, and infiltrated with serum. In the left lung the bronchi were found red and dilated.

Remarks.

There can be no doubt that this patient was labouring under an attack of pneumonia at the time of his admission, and that gangrene was the consequence. This state was not announced till the bronchi communicated with the cavities. It has lately been said that false membranes lining the bronchi are peculiar to pneumonia complicating influenza; but this is by no means true, as M. Louis has frequently met with them during the last five years, and he considers them to consist of inspissated mucus.

CASE VII.—*Pneumonia—Superior Lobe—Tubercles(?)—Recovery.*

A sempstress, aged 50, was admitted into Salle St. Charles, March 7th. She states that she has been ill for at least three months, during which time she has been unable to work. She has had a cough some time, but does not know how long. About a fortnight ago the cough increased, and she had for the first time a pain in the right side, and a shivering fit.

March 8th.—Memory imperfect; tongue villous, and covered with a white coat; much thirst, and no appetite; no pain in the abdomen; pain in the right side; cough frequent; has not expectorated blood.

Percussion dull in the superior and posterior third of the right side; bronchial respiration, bronchophony, and crepitation, in the same situation. Anteriorly, percussion dull under the right clavicle for an inch and a half, and a little craquement; no bronchophony or bronchial respiration. Sputa viscous, demi-transparent, and of a rusty colour.

Venæsectio ad 3xij.

9th. — Felt relieved about four hours after the bleeding; coagulum not very firm, adherent to the sides of the vessel, and covered with a greenish yellow coat; no serum. Sputa white, transparent, and spumous; pulse 72, regular; slept during the night. A dull sound, upon percussion, in the right infra-spinal fossa; near the vertebral column, about an inch and a half from the summit, fine crepitation, bronchial respiration, and bronchophony. Inferiorly some craquement; lower down the respiration is pure. Anteriorly percussion the same as yesterday.

Mistura Mucilaginosæ; Syrup. Papaveris, 3ss.

This patient rapidly got better. On the

14th there was dulness upon percussion on the right side, anteriorly and posteriorly, with bronchophony and a little crepitation posteriorly. On the 16th she left the hospital.

Remarks.

Previous to the attack of pneumonia this patient had been suffering from a pulmonary catarrh for about five or six weeks. M. Louis has not observed pneumonia to occur oftener during catarrh than during other diseases, nor has he observed the danger of the inflammation to be much increased by the combination. Though pneumonia was exceedingly prevalent whilst the influenza was in Paris, M. Louis does not believe that the grippe acted as a predisposing cause, though the state of the atmosphere, &c. which caused the grippe might have had the same influence in the production of the pneumonia. Many patients were admitted with the latter complaint, who had not had the grippe; and considering the immense number whom the epidemic attacked, the proportion of cases of pneumonia was not very great.

It is rare, except in very severe cases, to have dulness of percussion anteriorly and posteriorly, for, generally speaking, only a very small portion of the lungs in thickness is inflamed. As this patient has never exhibited any signs of phthisis, may it not have been caused by a commencing deposit of tubercles?

CASE VIII.—*Pneumonia—Pulmonary Catarrh—Emphysema—Recovery.*

A woman, aged 26, naturally of a strong constitution, was admitted into Salle St. Charles, March 7th. She has been ill six weeks, during which time she has been unable to work. Her illness commenced with a cough, but she has been subject to dyspnoea a long time. Eight days ago she was attacked with a pain in the right side, and had a rigor, which has returned every day.

March 8th.—Countenance has a violet tint; tongue natural; anorexia; 36 respirations; pulse 120.

Percussion loud anteriorly, even in the præcordial region; respiratory murmur vesicular, but not heard in the latter region. Posteriorly, on the right side, percussion is dull at a spot situated two inches from the vertebral column, and three from the summit. Bronchial respiration; bronchophony and crepitation in the same place; the pain is also referred there by the patient. Large crepitation inferiorly on both sides; sputa greenish and opaque.

Venæsectio ad 3vj. To be cupped.

9th.—Relieved by the cupping; pulse 92; tongue natural; has perspired during the night; local signs the same.

On the 10th the sputa had a bistre tint. On the 11th instant the local signs were much improved. The case was left without any further treatment, and on the 16th percussion was the same on both sides, but there was a little craquement superiorly.

Remarks.

The dyspnœa which had existed for some time, the swelling on the left side of the chest, the loud percussion there, and the weak respiratory murmur, all denoted the existence of emphysema.

CASE IX.—Double Pleuro-pneumonia—Favourable prognosis—Bled to fifty-seven ounces—Fifty-four grains of Tartar Emetic administered—Recovery.

A sempstress, aged 25, was admitted into Salle St. Charles, under M. Louis, February 16th. On the 12th instant, at five in the afternoon, she was attacked with shivering, followed by dyspnœa and pain in the left side. Previous to this time she was in perfect health, and had not had the influenza. Upon her admission she was bled to $\bar{3}xvj$.

Feb. 17th.—No amelioration; countenance anxious, and of a deep red colour; lips purple; tongue dry and red; pulse 112, and hard; skin hot; considerable dyspnœa, with sighing; 52 respirations. Coagulum of yesterday's bleeding covered with a thick buffy coat. At the bottom of the crachoir two or three sputa, containing very small air-bubbles; they are viscous, demi-transparent, and of a rusty colour.

Percussion loud under both clavicles. Posteriorly percussion dull in the three inferior fourths of the left side. Bronchial respiration and bronchophony to the same extent. Crepitation in the left axilla; superiorly, on the right side, percussion dull, with well-marked bronchophony.

Venæsectio ad $\bar{3}xv$. Antimon. Tartariz. gr. vj. in die sumenda. Low diet.

18th.—A single sputum, of a rusty colour, viscous, and demi-transparent; coagulum covered with a buffy coat; respirations short, and terminating with a groan, 48 in a minute; pulse 112. Lies on her back; alæ of the nose dilate considerably; mouth closed; pain in the right side; has not vomited; one stool; tongue moist and greyish; acute pain upon percussing the left side. Percussion dull; bronchophony and bronchial inspiration in the inferior four-fifths of the same side; crepitation heard only in a strong inspiration. At the summit of the right side

bronchophony and bronchial respiration, with dulness upon percussion.

Antim. Tartariz. gr. viij. in die sumenda. Venæsectio ad $\bar{3}x$. Four cupping glasses to be applied to the left side.

19th.—Pulse 116; 68 respirations; no nausea; no vomiting; no stool. Blood buffed, but surrounded with more serum. Yesterday evening (5 P.M.) crepitation was heard at the union of the middle and inferior thirds of the right side. This morning percussion is dull in the inferior fourth; at the summit of the same side the local signs remain the same. On the left side crepitation is distinct in the inferior three-fourths, except quite at the base of the lung.

Antimon. Tart. gr. x. in die sumenda. Venæsectio ad xvj .

20th.—Pulse 104; 52 respirations, and without noise; blood still buffed; tongue white, greyish posteriorly; no stool; no vomiting. Percussion loud in the middle third of the right side; dull superiorly and inferiorly; crepitation inferiorly, but not superiorly. Left side the same.

Rep. Antimon. Tartariz. gr. xij.

On the 21st instant the dyspnœa was less; the pulse was 100, but the local signs continued the same. She took again twelve grains of tartar emetic.

On the 22d the pulse was 92; the local signs had improved, and she complained for the first time of nausea, but she had not vomited. She was ordered to take six grains only.

23d.—Feels much better and stronger; expectoration easier. Percussion no where quite dull; less sound on the left than on the right side; crepitation inferiorly on the right side; on the left bronchophony, with bronchial respiration and crepitation. Great nausea; she quite loathes her medicine.

To omit the tartar emetic. A little vermicelli soup allowed.

From this time she rapidly got better. On the 26th instant the respiration was every where vesicular on the right side; on the left there was still crepitation, with œgophony and bronchial respiration, at the union of the middle and inferior thirds.

On March 11th she left the hospital quite convalescent, the only local sign remaining being a little craquement on the left side.

Double pneumonia is, comparatively speaking, very rare, and generally fatal; indeed, M. Louis has only known two or three to recover, and then the inflamma-

tion was not very extensive. It seldom occurs that both lungs are attacked at the same time, the other lung becoming inflamed only a very short time before the case terminates fatally: hence it is by no means uncommon to meet with double pneumonia in post-mortem examinations. Andral gives a list of 210 cases of pneumonia, of which twenty-five were double.

The superior lobe of the right side was already hepatized when the inferior lobe of the same lung was also attacked, a portion of healthy lung intervening. The previous evening, crepitation was distinctly heard in the inferior region of the right side. The next morning that portion of lung was hepatized, that is to say, in the short period of fifteen hours. Dr. Stokes, in his work on the Diagnosis and Treatment of Diseases of the Chest, observes, "that Laennec's first stage does not necessarily precede hepatization; that a lobe, which to-day was perfectly permeable, and presenting no morbid signs, shall in twenty-four hours be solidified, and present dulness, with absence of vesicular murmur, bronchophony, and bronchial respiration." M. Louis's experience partly agrees with that of the Dublin professor; for he has only known four cases in which the inflammation had not reached the second stage upon the admission of the patient into the hospital. But it by no means follows that the inflammation commenced with hepatization; for in twenty-four hours there was ample time for the crepitation to be developed, as the present case proves. Laennec says, that the first stage was of much longer duration during the gripe in 1803—4, sometimes continuing for seven or eight days; this was not the case with the gripe of 1837.

Percussion being always loud under both clavicles, M. Louis gave a very favourable prognosis, as it shewed that the lung was not inflamed to any great depth.

The right lung, though attacked three or four days after the left, was the first to return to its normal condition. M. Louis has always observed this to take place, not only in pneumonia, but in other diseases, as erysipelas, angina, &c. "That part of an organ, or that organ, when there are two, which is the last attacked with inflammation, is always the first to recover."

[To be concluded in our next.]

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

Wednesday, Sept. 6, 1837.

PROFESSOR DIEFFENBACH, the celebrated surgeon of Berlin, paid a visit to-day to

this institution. After exhibiting the several wards and offices to the distinguished stranger, Mr. Guthrie proceeded to operate upon three patients. The first was a Scotchwoman, named Lucy Macdonald, about 50 years of age, who had a lenticular cataract in the right eye. The left eye is not sound, and presents a glaucomatous character. The patient did not perceive any deterioration of her sight until about four years since, after a severe attack of erysipelas.

Mr. Guthrie performed the operation of extraction. The patient was placed in a chair before a tall window, and the surgeon having separated the eyelids, and placed the tips of his index and middle fingers on the eyeball, above and below the cornea, so as to fix it in one position, having the axis of vision directed a little downwards and to the left side, he introduced the point of a scalpel, such as is usually employed in this operation, at the outer edge of the cornea, about a line in front of its union with the sclerotica, and carrying it steadily towards the inner canthus through the anterior chamber, pushed it out through the cornea. He then cut upwards with the blade, and finally brought it out through a semilunar incision. A quantity of the aqueous humour escaped, and the patient was allowed to close her lids over the eye for a few seconds. The operator then introduced the point of a probe which had a spoon-shaped extremity, and having scratched through the lenticular membrane, the lens oozed out very gradually, the fore and middle fingers of the surgeon's left hand being in the same position as at the beginning of the operation, and exercising an imperceptible degree of pressure on the ball. The eyelids again closed over the eye, and the surgeon occupied a few seconds in very gently rubbing his finger over the closed lids of the patient. The eyes were dressed in the usual manner, and the woman put to bed in a darkened room.

Sept. 7th.—So much inflammatory action had come on at 8 o'clock yester-evening, that Mr. Archer, the house-surgeon, found it necessary to take twenty-four ounces of blood from the patient. She has had a tolerable night, and is free from pain this morning, but the pulse is rising in power, though the skin is moist.

Mr. Guthrie next operated on a middle-aged man, with a cataract of the left eye. On a former occasion the surgeon had divided the capsule, and admitted the aqueous humour to the crystalline lens; to day he divided the lens into portions, and protruded a large part of them into the anterior chamber, in order to be more

effectually acted upon by the aqueous humour. The puncture was made in the sclerotica, a line behind the margin of the cornea. The patient described the pain as much inferior to that occasioned by cupping on the temples.

Sept. 7th.—At 5 o'clock yesterday afternoon this patient experienced so much pain in the eye, that Mr. Archer thought it necessary to bleed him to the extent of twenty-four ounces. This morning he is easy; the pulse is low, and the skin moist.

A third patient operated upon by Mr. Guthrie was a woman of about 50 years of age, with ectropeon of the right eye. The patient had suffered for some years with this disease in both eyes, and the corneæ had in consequence become opaque. About a couple of months since Mr. Guthrie had operated on the left eye with complete success, the patient having perfect control over the lid, and the cornea having very much cleared itself.

A fold of skin of the superior palpebra of the affected eye being taken up in the blades of a thin, blunt-pointed pair of forceps, was excised with a curved pair of scissors made for the purpose. Two incisions were then made through the tarsal cartilage, one near the inner, and the other near the outer canthus, and two ligatures passed in a needle through the edge of the cartilage; and the eyelid being drawn upwards from its abnormal position, was thus retained, by fastening the ends of these ligatures against the forehead of the patient with slips of adhesive plaster. The application of a compress and bandage completed the process.

Mr. Guthrie has found this method the most effectual and least painful way of overcoming the vicious curvature of the tarsal cartilage, which constitutes the essence of this disease. A period of four days, in the majority of cases, is found sufficient to heal the wounds, and subdue the distortion.

Mr. Guthrie stated, in regard to the case of Lucy Macdonald, that it was unfavourable for operation, owing to the glaucomatose character of the eye; but, under all the circumstances of the case, he had thought it right to give her a chance of recovery.

Professor Dieffenbach appears to be a pleasant affable person, but we could not collect from his conversation any observation worthy of record, except an assertion, in reply to some remarks of a visitor, "that a surgeon should be able to operate with any thing,"—a statement which, from the pregnancy of its meaning, is worthy of being classed as an apothegm; for the operator who is conscious of a clear head

and an obedient hand, feels that modifications in the shape of instruments are considerations of secondary importance.

Sept. 7th.—The last patient, who lives out of the hospital, attended this morning, at 9 o'clock, to have the eye examined. The appearance of the parts is such as to lead to an expectation of perfect recovery.

COX'S EDITION OF COOPER.

To the Editor of the Medical Gazette.

SIR,

YOUR correspondent, "Vindex," states that he purchased of me, some time ago, the second volume of Sir Astley Cooper's *Lectures on Surgery*; and because the date at which the third volume will appear has not been announced, he raises a complaint of my conduct, and suspects that I have no intention of completing the work.

The expression "some months ago" is scarcely suitable, when the second volume was only published in June last; and since "Vindex" made no complaint during the interval of eighteen months between the publication of the first and second volumes, surely he might allow a reasonable time for the completion of the third and concluding volume. It is always difficult to fix a precise time at which a publication of any consequence will be issued; but I have no hesitation in saying that the one in question *will* be completed, and that without delay. As I never intended to "violate" the "faith of the prospectus," so has there never been an intentional silence on my part with regard to the ultimate and speedy completion of the work. When this faith shall have been broken, it will be quite time enough to discuss with "Vindex" the question of returning the purchase-money of the first and second volumes.—I am, sir,

Yours very respectfully,
ELIZABETH COX.

St. Thomas's-Street, Borough,
Sept. 11, 1837.

LECTURES ON PATHOLOGY.

To the Editor of the Medical Gazette.

SIR,

THE good sense and truth of your remarks on the inutility of a separate chair of pathology in a school of medicine and surgery, have been strongly confirmed by the proceedings of the school of Guy's Hospital, after an experience of many years. I am informed by an officer of that institu-

tion, that, in the prospectus of the lectures for the coming session, those on pathology (as a distinct course) have been expunged.

The resignation by Dr. Hodgkin of the pathological chair and curatorship of the museum may probably have paved the way for this new and desirable arrangement. The inutility, however, of a separate course of pathology had been abundantly shown by the scanty attendance of pupils on the lectures of that zealous physician. At a period of the season when students are most attentive, and the other class-rooms are crowded, the lectures on pathology have been delivered to an audience consisting of half a dozen pupils. The authorities of the hospital have therefore wisely considered it inexpedient to appoint a successor to Dr. Hodgkin.

The various branches of pathology ought to be, and doubtless are, sufficiently explained in the lectures delivered on medicine, anatomy, and surgery. The more intricate and dubious parts of pathological investigation, which are of little avail to any, to the student are worse than useless: they tend but to consume his time, and to bewilder him in practice.

I am, sir,
Your obedient servant,
PATHOLOGICUS.

London, Sept. 11, 1837.

SIR A. COOPER IN EDINBURGH.

ON Tuesday, September 5th, the College of Surgeons of Edinburgh entertained Sir Astley Cooper to dinner in the Royal Hotel. Besides a numerous attendance of the College, there were present Dr. Abercrombie, Professors Hope, Alison, Sir C. Bell, &c., and many medical gentlemen formerly in the public service. Sir G. Ballingall was in the chair; and Mr. Lothian, Treasurer, Drs. Gardiner and J. Campbell, acted as croupiers. After the usual loyal toasts, the health of Sir Astley Cooper was drunk with the warmest enthusiasm, which Sir Astley acknowledged in a speech of great good humour, and the utmost kindness of feeling. He stated, that fifty years ago, in the year 1787, considering that his medical education could not be complete without studying in Edinburgh, he became the pupil of Cullen, Black, Gregory, &c. He mentioned, that when he came to Edinburgh on Wednesday, the first place to which he drove was his former lodgings in Bristo-street; that amidst all the improvements in Edinburgh, he found the locality of his former residence very little changed; that he saw the very room and the closet, endeared by former recollections; and that when he looked back upon those days, and reflected

on the fame and success which had attended him through life, he was tempted to fall down on his knees and thank that Providence which had so conducted him. Seeing so many members of the profession in the company, he affectionately exhorted them to attain the utmost skill in their profession, never to attempt to rise by depressing another, and never to let go their integrity and high moral character. He paid high compliments to the great men under whom he had studied, and was delighted to find that the reputation of the University was still upheld by those who had succeeded him. He highly approved of the adoption of Sir C. Bell as professor of surgery. In the course of the evening, Sir G. Ballingall announced that he had been informed by letter from the Lord Provost, who regretted that his health would not allow him to be present at the meeting, as he had been invited to be, that the freedom of the city of Edinburgh had that day been conferred upon Sir Astley, whose health he again proposed in the capacity of the youngest citizen of Edinburgh. The evening was spent throughout in the utmost harmony, and the meeting did not separate till a late hour.—*Edin. Paper.*

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Sept. 12, 1837.

Abscess	1	Hooping Cough	4
Age and Debility	24	Inflammation	18
Apoplexy	4	Bowels & Stomach	6
Asthma	1	Brain	3
Childbirth	1	Lungs and Pleura	3
Consumption	26	Jaundice	1
Convulsions	28	Measles	12
Dentition or Teething	4	Mortification	3
Diarrhœa	3	Small-pox	2
Dropsy	6	Sore Throat and	
Dropsy in the Brain	5	Quinsey	1
Fever	4	Spasms	1
Fever, Scarlet	6	Worms	1
Fever, Typhus	1	Unknown Causes	21
Hæmorrhage	1		
Heart, diseased	1	Casualties	7

Decrease of Burials, as compared with } 138
the preceding week }

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

Sept.	THERMOMETER.		BAROMETER.	
Thursday . 7	from 36 to 65		29.90 to 29.77	
Friday . . 8	43	64	29.80	29.84
Saturday . 9	42	67	29.81	29.63
Sunday . . 10	42	69	29.76	29.86
Monday . . 11	43	70	29.76	29.60
Tuesday . . 12 ^p	39	61	29.68	29.42
Wednesday 13	39	65	29.25	29.09

Wind, S.W.
Except the 7th and 8th, generally clear.
Rain fallen, .525 of an inch.
CHARLES HENRY ADAMS.

WILSON & SON, Printers, 57, Skinner-st., London

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

SATURDAY, SEPTEMBER 23, 1837.

LECTURES

ON

MATERIA MEDICA, OR PHARMACOLOGY, AND GENERAL THERAPEUTICS,

Delivered at the Aldersgate School of Medicine,

By JON. PEREIRA, Esq., F.L.S.

LECTURE LXXIV.

CONVOLVULACEÆ.

Convolvulus Scammonia.

History.—A purgative substance called *Σκαμμωνία* was known to the Greeks long before the time of Hippocrates. (See *Voigtel's Arzneimittellehre*, bd. i. p. 17, and *Bischoff's Handbuch der Arzneimittellehre*, bd. i. p. 40.) The father of medicine, who frequently employed it, says that it evacuates bile and mucus, and expels flatus. There is, however, some reason to believe that the ancients did not obtain their *Σκαμμωνία* from the same species of *Convolvulus* which yields our scammony: Sprengel thinks it was *Convolvulus farinosus*, but Dierbach is of opinion that it was *C. sagittifolius*, *Sibth.* (Consult *Dierbach, Arzneimittel des Hippocrates*).

Botany.—The *Convolvulus Scammonia* is a native of Asia Minor and Syria. Its perennial root is tapering, three or four feet long, and contains a milky juice. It gives origin to numerous, twining, herbaceous stems, which, like all other parts of the plant, are smooth. The leaves have long petioles; they are sagittate, acuminate, with pointed lobes at the base. The flowers stand on long, mostly three-flowered peduncles. Each peduncle, as well as its divisions, the pedicles, is supplied with a pair of lanceolate bractæ. The calyx

consists of five obovate, truncated segments, each of which is furnished with a short point; the corolla is bell-shaped, plaited, pale yellow, with purple stripes; the stamina are shorter than the corolla; the anther is erect and sagittate.

The Linnæan class of *Convolvulus* is *Pentandria*, order *Monogynia*.

Preparation.—The method of procuring scammony is, according to Dr. Russel, the following:—Having cleared away the earth from the upper part of the root, the peasants cut off the top in an oblique direction, about two inches below where the stalks spring from it. Under the most depending part of the slope they fix a shell, or some other convenient receptacle, into which the milky juice flows. It is left then about twelve hours, which time is sufficient for the drawing off the whole juice: this, however, is in small quantity, each root affording but a few drachms. This milky juice from the several roots is put together, often into the leg of an old boot, for want of some more proper vessel, when in a little time it grows hard, and is the genuine scammony.

It is, however, very probable that the process now mentioned is not the only one employed, but that others, similar to those described by Dioscorides and Mesue, are also resorted to.

Moreover, various substances are added to scammony while yet soft: Dr. Russel says wheat-flower, ashes, or fine sand; and, I may add, chalk.

Physical properties and varieties—All the scammony consumed in this country is brought from Smyrna, either directly or indirectly, as by way of Trieste. In proof of this we have only to refer to the Customs' bill of entry. Pharmacologists, however, usually tell us that one kind only (probably the produce of another plant), and of inferior quality, is brought from this place, while the finer kinds are imported from Aleppo. I have no doubt that the two varieties of scammony known respectively

by the names of Aleppo and Smyrna are the produce of different districts, but their common place of export is Smyrna. As these terms are in common use, to designate particular kinds of this drug, I shall continue to employ them without meaning thereby to affirm that they correctly represent the countries producing this gum-resin.

(a.) *Aleppo scammony*—*Scammonium halepense*.—Under this name we meet with several varieties of scammony of different qualities. Those that I am acquainted with are the following :—

1. *Pure or Virgin Scammony*.—Under this name I have received a scammony which agrees with the description given by Guibourt, of his *Scammonée d'Alep supérieure*. I believe it to be very scarce, having only met with it twice, and on several occasions have in vain tried to obtain some of it in the London market. It usually occurs in amorphous pieces; but a careful examination of some large lumps has led me to believe that they formed portions of a large mass, which, in the soft state, had a rounded form. The whitish grey powder which covers many of the pieces, effervesces with muriatic acid; and I have no doubt, therefore, that the masses have been rolled in chalk. The first portion which I procured of it was received from one of our most respectable wholesale druggists, who assured me that he had received it from the importer, whose agents in Turkey had prepared it, and who informed him it was absolutely pure scammony. Its price being very high, and its appearance different to the scammony usually found in commerce, it did not meet with a ready sale.

It is friable, and may be easily reduced to small fragments by the pressure of the nail: the fractured surface is blackish, resinous, and shining, presents small air cavities, and numerous grey semi-transparent splinters or fragments when examined by a magnifying-glass, and does not effervesce on the addition of muriatic acid. When rubbed with the finger moistened with either water or saliva, it forms a milky liquid. If we examine thin frag-

ments or splinters of this gum-resin by transmitted light, we observe them to be semi-transparent at the edges, and of a grey brown colour. It readily takes fire, and burns with a yellowish flame. Its odour is powerful and remarkable: its taste is slight at first, afterwards acrid.

2. *Aleppo scammony of second quality*.—This kind is usually regarded as of very fine quality, and, indeed, has long been considered as the best. It is imported in cylindrical boxes, called *drums*, which contain from 75 lbs. to 125 lbs each. I have two sub-varieties of it: *one* is in light, friable pieces, mostly flat on one side, as if forming portions of a cake, which must be about an inch in thickness; the fractured surface is dull, or very slightly shining, and of a greyish black colour. The *second* is in larger cakes, several inches thick, and having a dull fracture.

I have sometimes met with this kind of scammony having a soft or cheesy consistence; and some samples boiled in water gave a solution which became blue on the addition of iodine, from which I inferred they were probably adulterated with flour, as described by Dr. Russel.

3. *Aleppo scammony of inferior quality*.—This occurs in round flat cakes, about four or five inches in diameter, and one inch thick. They are heavy, dense, much more difficult to fracture than the kinds already described. The fractured surface has air cavities, and numerous small whitish specks (chalk); its colour varies from greyish to greyish black. It is readily distinguished from the preceding kinds by muriatic acid, which, when applied to a recently-fractured surface, causes effervescence, owing to the chalk with which this gum-resin has been adulterated.

From the same party who first furnished me with the pure or virgin scammony, before alluded to, I have received portions of five cakes of this variety of scammony, on which were marked the actual quantities of chalk which the agents in Turkey had intermixed. I have reduced these quantities to per centage numbers, and they then stand as follows :—

	1.	2.	3.	4.	5.
Pure Scammony	86.93	76.9	75.0	68.95	62.46
Chalk	13.07	23.1	25.0	31.05	37.54
	100.00	100.0	100.0	100.00	100.00

Of the accuracy of this statement I entertain no doubt, the party who furnished it being of the highest respectability, and most desirous that pure scammony

only should be imported. I ought to add, I am assured that while the pure scammony, when brought to this country, does not fetch a price sufficient to pay its importation, this adulterated kind meets with a ready sale. The buyers and consumers, therefore, ought not to complain of the manufacturer, who is forced to adulterate his article to make it saleable.

(b.) *Smyrna scammony*.—The scammony described in books under this name is said by some writers to be the produce of *Secamone Alpini* (the *Periploca Secamone* of Linneus), a plant belonging to the family *Asclepiadaceæ*. It is in circular flat cakes, barely more than half an inch thick; heavy, dense, not friable, and breaking with a dull black fracture. I believe it to be rarely met with.

(c.) *Indian scammony*.—From my friend Dr. Royle I have received a sample of scammony met with in the Indian bazaars. It is light, porous, of a greenish grey colour; gritty under the teeth, as if containing a considerable quantity of sand; and having a balsamic olibanum-like odour.

(d.) *Trebizon scammony* (?).—In 1832 a substance was imported from Trebizon under the name of scammony, which was unsaleable here. The sample which I received of it is a portion of cake apparently round, flat below, and convex above. Its colour is light greyish or reddish brown: when moistened the surface becomes glutinous and odorous; its taste is sweet, nauseous, and somewhat bitter.

(e) *Montpellier or French scammony*.—This is manufactured in France with the expressed juice of the *Cynanchum monspeliacum*. Its properties are fully described by Guibourt, to whose work I must refer for an account of it.

Composition.—No analysis of pure scammony has yet been published. Some years ago I digested 100 grains of dried, very fine, pure or virgin scammony in æther, and by the subsequent evaporation of the ætherial solution obtained eighty grains of resin. A sample scarcely so fine lately yielded one of my pupils (Mr. Scoffern) 78.04 per cent. of resin. Bouillon, La Grange, and Vogel, in their analysis of Aleppo scammony procured only 60 per cent. of resin; but they evidently operated with an inferior specimen, since they state that there were 35 grains of vegetable remains and earthy matter left behind. I suspect they were unacquainted with the pure scammony before described. The same chemists obtained 29 per cent. of resin from what they regarded as Smyrna scammony. The resin is the active principle of scammony.

Physiological effects: (a.) *on animals generally*.—The experiments of Orfila lead us to infer that scammony is not poisonous. "We have," says he, "frequently administered four drachms of it to dogs who had the œsophagus afterwards tied, and have only observed alvine evacuations." On horses and other herbivorous animals, its operation is very uncertain. Gilbert states that six drachms killed a sheep in twenty days, without having caused purging.

(b.) *On man*.—In the human subject scammony acts as a powerful, drastic, yet safe, purgative; operating very much like jalap, but requiring a less dose to produce the same effect. As its evacuant powers depend, principally at least, on its local irritation, it operates more powerfully when there is a deficiency of intestinal mucus, and is then very apt to gripe; and *vice versâ*, when the intestines are well lined with secretion, it passes through with much less effect. This appears to be the only mode of accounting for the unequal operation of scammony, which some writers have spoken of, though I must add I have never seen any remarkable difference in its effects.

Uses.—Scammony is of course inadmissible in inflammatory conditions of the alimentary canal, on account of its irritant qualities. It is principally valuable to us as a smart purgative for children, on account of the smallness of the dose necessary to produce the effect, the slight taste, and the energy, yet safety, of its operation. When used for them, it is generally associated with calomel. It may be employed to open the bowels in cases of constipation—to expel worms, especially of children—to operate as a hydragogue purgative, on the principle of counter-irritation, as in affections of the head and dropsies; and for any other purposes for which an active cathartic may be required.

Administration.—The dose of scammony in powder, is from five to ten or fifteen grains. The compound powder of scammony of the London Pharmacopœia consists of scammony, hard extract of jalap, and ginger. The dose of it as a purgative is from ten to twenty grains. The confection of scammony is rarely used: it consists of scammony with cloves, ginger, and oil of carraway, made into a confection with syrup of roses;—the dose is from half a drachm to a drachm. Scammony is a constituent of the compound extract of colocynth of the London Pharmacopœia, as well as of the compound cathartic pills (already mentioned) of the United States Pharmacopœia.

Ipomæa Jalapa (Nuttall).

History.—De Paiva states that the first

notice of jalap-root was made by Dodoens in 1552, and that within the next ten years it was mentioned, though briefly, by Monardes and Clusius. It is usually stated to have been first brought to Europe in 1610.

Botany.—The plant figured by Woodville as *Convolvulus Jalapa*, does not yield, as has been usually stated, the Jalap root of commerce. In 1827, Dr. Coxe, Professor of Materia Medica in the University of Pennsylvania, received directly from Xalappa several small Jalap plants; and having placed them in his garden, succeeded in obtaining one in flower, which Mr. Nuttall immediately declared to be a species of *Ipomæa*, which he termed *I. Jalapa*, and which was described and figured in the *American Journal of Medical Sciences* for February 1830. In the same year appeared a notice of the jalap plant, by Dr. Schiede, in Schlechtendal's *Linnea*, p. 473. More recently (1832) an elaborate description and figure of the plant has been published by Zuccarini*, from specimens procured in Mexico by Dr. Schiede. Zuccarini terms it *Ipomæa Schiedeana*. Professor Don has also described, in a paper read before the Linnean Society, the jalap plant raised from seeds sent by Dr. Schiede; and, most unaccountably, the College of Physicians have in the new Pharmacopœia preferred quoting Professor Don's unpublished remarks, to the papers of Nuttall, Schiede, and Zuccarini!! An interesting paper on the Jalap plant has also been published by Pelletan†.

According to Dr. Schiede, the Jalap plant grows on the eastern range of the Mexican Andes, near Chicanquiaco, at an elevation of nearly 6000 feet above the level of the sea. The root is tuberous-incrassated, perennial; the stems annual, twining, branched, smooth. All the leaves are ovate, acuminate, cordate at the base, entire, and smooth on both sides. The peduncles are from one to three-flowered; the sepals are unequal, obtuse, smooth; the corolla is salver-shaped, with a subclavate, cylindrical tube, and a sub pentagonal, horizontally-expanded limb: the stamina are exserted.

The only market for this root is Xalappa, from whence it is sent to Vera Cruz, and from thence is exported to Europe.

Physical properties.—We seldom meet with the tubers of jalap in commerce weighing more than a pound, or being much larger than the fist: the smallest are about the size of a nut. When entire, they are usually more or less oval, and pointed at the two extremities; frequently,

especially the larger tubers, incised, apparently to facilitate desiccation. They are covered with a thin, brown, wrinkled cuticle: they should be heavy, hard, and difficult to powder. When broken, good tubers present a deep yellowish-grey colour, interspersed with deep brown concentric circles. The slices vary in their shapes. Some of them are light, whitish, and friable; and, from their shape, these pieces are sometimes termed *cocked-hat jalap*: they are considered to be of inferior quality. These, I presume, are the produce of *Convolvulus Orizabensis* of Pelletan*, and which Ledanois tells us is termed *Jalap mâle*, in Mexico, and by the French pharmacologists, *light* or *fusiform jalap*. Ledanois says it contains 8 per cent. of resin.

Chemistry.—Jalap root was analysed by Cadet de Gassicourt in 1817, and more recently by Gerber, whose results I subjoin:—

Hard resin	7·8
Soft resin	3·2
Slightly acrid extractive	17·9
Gummy extractive	14·4
Colouring matter	8·2
Uncrystallizable sugar	1·9
Gum, with some salts	15·6
Bassorin	3·2
Vegetable albumen	3·9
Starch	6·0
Water	4·8
Malic acid and malates of potash and lime	2·4
Chlorides of calcium and potas- sium	1·4
Phosphates of magnesia and lime	1·7
Carbonate (?) of lime	3·0
Loss	4·6
	<hr/>
	100·0

The *active principle* of jalap resides essentially in the resinous matter, though it is perhaps modified by the other constituents. Martius has found that, by the agency of animal charcoal, this resin may be deprived of the greater part of its colour, and that it then has a pale yellow colour, a feeble odour, a somewhat acrid taste, and contains, according to Goebel, an extraordinary quantity of oxygen, being composed of—

Carbon	36·62
Hydrogen	9·47
Oxygen	53·91
	<hr/>
	100·00

This substance has sometimes been sold under the name of *Jalopin*. Buchner and Herberger have resolved jalap resin into two other resins, one which they regard as an acid (*Jalapic acid?*), the other as a base.

* Acta Acad. Regiæ Monacensis, vol. x.
† Journ. Chimie Médic. tom. x. p. 1.

* Journ. Chim. Méd. tom. x.

The latter they consider to be the active resin, and accordingly apply the term *Jalapin* to it.

The quantity of resin obtained from jalap root is usually estimated at about

ten per cent.; but it is liable to considerable variation. Henry has published a comparative analysis of three kinds of jalap, which illustrates the correctness of this statement.

JALAP.			
	Light.	Sound.	Worm-eaten.
Resin	12	9·6	14·4
Extractive	15	28·0	25·0
Starch	19	20·4	20·6
Woody fibre.....	54	42·0	40·0
	100	100·0	100·0

Physiological effects.—(a.) *On animals generally.* — Jalap root in powder, as well as the resin obtained from it, is a local irritant. Cadet de Gassicourt found that the resin applied to the pleura, peritoneum, or intestinal canal of dogs, caused fatal inflammation. Two drachms introduced into the stomach, the œsophagus being afterwards tied, killed a dog in a few hours. It is remarkable, however, that the same experimenter observed no particular effect from the application of a drachm of the finely powdered resin to the cellular tissue of the back. Moreover, 24 grains, with the yelk of an egg, injected into the jugular vein, had, he says, a very slight effect; indeed, at first none was observed, but the two following days the animal had soft, pale evacuations, and lost his appetite, though he soon recovered from this state. For horses it cannot be relied on as a purgative; indeed the same remark applies to herbivorous animals generally. Two ounces of the powder had no effect on sheep, and both Viborg and Donné have given it to horses in doses of two or three ounces, without any obvious effect, except a more abundant evacuation of urine.

(b.) *On man.*—In the human subject jalap acts as a powerful and drastic purgative, and when judiciously exhibited, is both safe and efficacious. Its objectionable effects are, that while in the stomach, it causes frequently nausea, and sometimes vomiting: while after it has passed into the intestines, it oftentimes gripes.

It is tolerably certain in its operation; more so, indeed, than many purgatives. In the proper dose it may be given without the least hesitation to children in any

case requiring an active purge. It has an advantage over some other evacuants, that it does not stimulate or heat the system, its effects being confined principally to the alimentary canal;—the peristaltic motion, secretions, and exhalations of which it promotes. Its purgative and resinous properties ally it to scammony and gamboge, and less obviously to colocynth; to scammony it is further related by botanical affinities. “In its stimulant operation on the nervous system,” says Sundelin, “jalap is inferior to scammony, gamboge, and colocynth, but is superior to aloes and senna; the latter, however, exceed jalap in their inciting and heating qualities.” Vogt considers jalap to be more powerful than gamboge in its action on the abdominal and pelvic vessels, but less so than aloes.

Uses.—Daily experience proves the value of jalap as an active purgative in a variety of diseases. Of course, its irritant properties unfit it for exhibition in inflammatory affections of the alimentary canal; moreover, it is not an appropriate purge in irritation of, or hæmorrhage from, the uterus, as well as in piles and stricture, or prolapsus of the rectum. The following are some of the cases in which we employ it:—

1. *In constipation*, not dependent on, or connected with, irritation of the alimentary canal, or of the pelvic viscera. Associated with calomel, its activity is much increased. It may be employed at the commencement of fevers, in disordered conditions of the liver, in cephalic affections, and many other cases requiring purgatives. It may be administered, not only to adults, but to children also.

2. *In intestinal worms*, jalap and calomel

form a very efficacious anthelmintic compound. "Jalap root," says Bremser, "is, without contradiction, in verminous diseases, one of the best purgatives, and which, perhaps, possesses at the same time greater anthelmintic virtues than any others."

3. In dropsical complaints, when we wish to excite watery stools, jalap is a valuable remedy, especially in combination with cream of tartar. Macgræve calls it *panacea hydropicorum*.

4. In retention of the catamenia and of the hæmorrhoidal discharge, jalap is one of the purgatives adapted, from its stimulant influence over the pelvic vessels, to promote these fluxes.

Administration.—The dose of jalap, in powder, is from ten grains to half a drachm: for an adult, a scruple will usually act smartly.—The compound powder of jalap of the Edinburgh and Dublin Pharmacopœias, is a mixture of one part powdered jalap to two of cream of tartar: its dose is a scruple or half a drachm.—The extract of jalap is a mixture of the spirituous and aqueous extracts: its dose is from ten grains to a scruple.—The tincture of jalap is commonly employed as an addition to other purgatives, in doses of one or two drachms.

CONIFERÆ.

I purpose, in the first place, noticing those

Coniferæ which yield the turpentines of commerce.

Although all coniferous plants abound in resinous matters, yet those oleo-resins which are termed in commerce *turpentines*, are obtained from a certain number of species only. Botanists, however, are not agreed as to how many genera these species form. Link includes them under four—namely, *Pinus*, *Picea*, *Abies*, and *Larix*; and I would much prefer following his arrangement of them, but that in this country it is not usually adopted. I therefore think it most advisable to follow the arrangement in Loudon's *Encyclopædia of Plants*.

PINUS.—This genus includes a considerable number of species, from several of which the turpentine of commerce is procured.

1. *Pinus sylvestris*.—This is the *Scotch fir*, or *wild pine*, and is indicated in the London Pharmacopœia as the source of *common turpentine*, though very little, I suspect, of the commercial article is obtained from it.

2. *Pinus maritima* (Decandolle). This is the *Pinus pinaster*, or *cluster pine*, of Mr. Lambert. It yields *Bordeaux turpentine*—

one of the oleo-resins sold here as *common turpentine*.

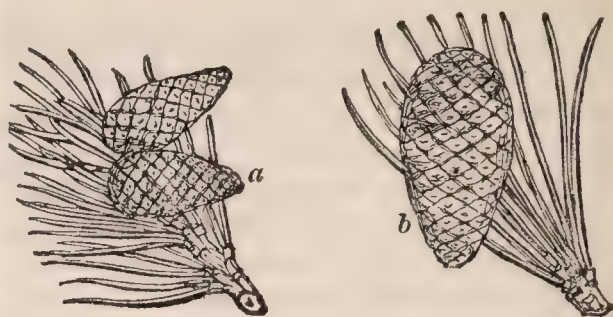


FIG. 206.—(a.) *Pinus sylvestris*. (b.) *Pinus maritima*.

Pinus palustris, or the *swamp pine*, is, according to Dr. Wood (*United States Dispensatory*), the principal source of the American turpentine.

4. *Pinus Tæda*, or the *Frankincense pine*, also yields part of the American turpentine.

5. *Pinus Pumilio*, or the *dwarf pine*, allows an oleo-resin to exude spontaneously from the extremities of the branches: this exudation is called *Hungarian balsam*; and by distillation there is procured an essential oil, called by the Germans *Krummholzöl*, or *oleum templinum*.

6. *Pinus pinea*, or the *stone pine*, furnishes the cones called *pignoli pines*, the seeds of which, termed *nuclei pineoli*, are used as a dessert.

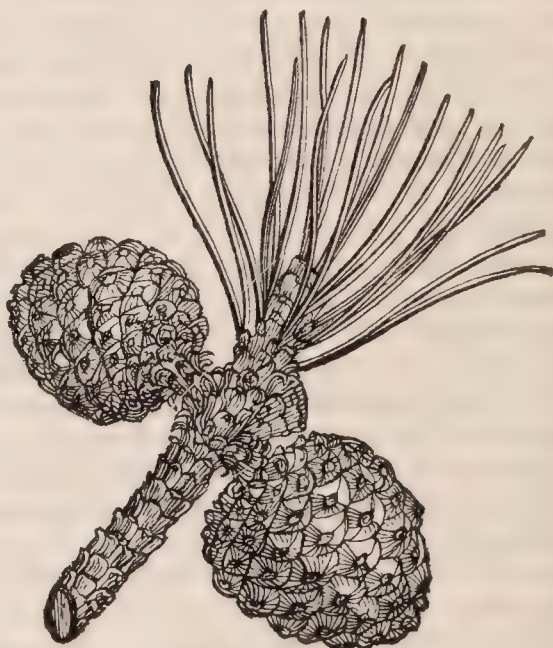


FIG. 207.—*Pinus pinea*.

7. *Pinus Cembra*, or *Siberian stone pine*, yields, by distillation, an oil called *Carpathian balsam*.

ABIES.—Several species of this genus also yield turpentine in abundance, sufficient for commercial purposes.

1. *Abies communis*, or *Norway spruce fir* (the *Pinus Abies* of Linn.), yields by spontaneous exudation *Thus* (the *resina Abietis* of the London Pharmacopœia.) From this is prepared *Burgundy pitch*.

2. *Abies alba*, or *white spruce fir*.—The branches of this tree are used in the preparation of *spruce beer*, or *essence of spruce*.

3. *Abies Picea*, *silver or pitch fir* (the *Pinus Picea* of Linn).—From this species is obtained *Strasburg turpentine*.



FIG. 208.—(a.) *Abies Picea*.
(b.) *Abies Balsamea*.
(c.) *Abies canadensis*.

4. *Abies Balsamea*, or *balm of Gilead fir*.—This yields the well-known *Canada balsam*.

LARIX.—The only species of this genus to be noticed is *L. communis*—the *L. europæa* of Decandolle—or *common larch*. It yields *Venice turpentine*. A saccharine matter exudes from this tree, which is called *Manna de Briançon*. When the larch forests of Russia take fire, a gum issues forth from the trees during the combustion of their medullary portions, which is termed *gummi Orenburgense*. Lastly, a fungus, called *Boletus Laricis*, formerly used in medicine, is nourished on this tree.

Of the Terebinthinate Oleo-Resins.

The term *turpentine* is applied to a liquid resinous (oleo-resinous) juice, obtained either from certain coniferous plants, or from the genus *Pistachia*, of the family *Anacardiaceæ*. The juice of the latter is the true turpentine of the ancients*. On the present occasion I have only to speak of the turpentines obtained from coniferous trees.

It is unnecessary to enter into any minute description of the different kinds of turpentine found in commerce.

1. *Common turpentine*: *Terebinthina vulgaris*.—Under this name we find in commerce oleo-resins brought from various parts of the world (principally New York and Bordeaux), obtained, therefore, from different species, and possessing slightly different properties. The general method of procuring them is by making holes or incisions in the stems of the trees, and collecting the juice which exudes in little pits made in the soil at the foot of the tree, or in small troughs, or in excavations made in the substance of the tree itself, near the root.

American or white turpentine (the *Térébenthine de Boston* of the French), the kind chiefly met with in this country, is procured chiefly from *Pinus palustris*, but partly also from the *Pinus Tæda*.

Bordeaux turpentine is the produce of *Pinus maritima* of Decandolle, the *Pinus Pinaster* of some other botanists. It enjoys, with balsam of copaiva, the property of solidifying with magnesia, and in this respect is distinguished from *Strasburg turpentine**.

2. *Strasburg turpentine*: *Terebinthina argentoratensis*.—This is the produce of *Abies Picea*.

3. *Venice turpentine*: *Terebinthina veneta*.—This is procured from *Larix europæa*, or the common larch.

4. *Canada balsam*: *Balsamum Canadense*.—This oleo-resin, so useful for optical purposes, is obtained from *Abies balsamea*.

5. *Common frankincense*: *Thus*.—This is the spontaneous exudation of *Abies communis*. When melted in water, and strained through strong close cloths, it constitutes the *Burgundy pitch* (*Pix Burgundica*) of the shops, which differs from *Thus* in being deprived of a great part of its volatile oil.

6. *Hungarian balsam*: *Balsamum Hungaricum*.—This is the produce of *Pinus Pumilio*. By distillation it yields the *Krumholz oil*, or *Oleum Templinum*.

7. *Carpathian balsam*: *Balsamum Carpathicum*.—This is procured from *Pinus Cembra*.

The composition of these different terebinthines is very much alike; the essential parts being volatile oil and resinous matters, but mixed usually with some small portion of other substances. The relative proportions of oil and resin are liable to the greatest variation, even in the turpentine of the same tree. Here are some approximations:—

* MEDICAL GAZETTE, vol. xx. p. 676.

* MEDICAL GAZETTE, vol. xx. page 707.

TURPENTINE.						
	Common. (Unverdorben.)	Bordeaux. (Unverdorben.)	Venice. (Unverdorben.)	Strasburg. (Caillot.)	Vosges. (Caillot.)	Canada Balsam. (Bonastre.)
Volatile oil.....	5 to 25	12	18 to 25	33·5	32·	18·6
Resin	„	„	„	63·44	64·26	77·4
				96 94	96·26	96·0

Under the head of “Resin,” in the above table, I have included not only the resin commonly so called (which is composed of pinic and sylvic acids), but also what has been termed *indifferent resin*, and a crystallizable resin found in the Strasburg and Vosges turpentine, and called *abietine*.

The most important, because by far the most active, constituent of these turpentine, is the essential oil; and those, therefore, which possess the greatest liquidity, and which in consequence contain the largest proportion of oil, are to be regarded as the most powerful preparations. Their effects are, for the most part, those of the essential oil presently to be described. Applied externally they act as rubefacients, and sometimes occasion an eruption on the skin: an illustrative case is mentioned by Rayer, of a vesiculopustular eruption caused by the application of a Burgundy pitch plaster. To wounds or ulcers the turpentine act as stimulants and astringents. Taken internally, in large doses they are laxatives; in more moderate quantities they operate as stimulants to the vascular system, excite the urinary organs, increase the secretion of urine, and communicate a violet odour to this fluid.

They are used sometimes as local agents, either as stimulants to ill-conditioned sores, or as styptics. Internally they are principally employed to diminish mucous discharges from the urino-genital organs; sometimes in chronic bronchial affections; also in chronic forms of rheumatism, and in piles.

The dose of them is a scruple to one or two drachms, taken in the form either of pill or emulsion.

Essential Oil of Turpentine.

By the distillation of common turpentine there comes over a volatile oil, known

in the shops by the name of the oil or spirits of turpentine, and which, for shortness, is often termed by painters and others *turps*. It is the *oleum terebinthinæ* of the Pharmacopœia. If it be mixed with four times its weight of water and cautiously distilled, we obtain the *oleum terebinthinæ purificatum* (Ph. L.) By this process it is deprived of a portion of resin which the ordinary oil usually contains. To separate any acid, or water, it should be distilled from quicklime.

When quite pure, it is a colourless limpid fluid, having a peculiar but disagreeable odour. Its specific gravity is 0·86 at about 70° F. It boils at about 312° F., but when mixed with water it may be distilled at 212°. By exposing it to a temperature of about 16° F. crystals are deposited (*stearoptene*?), whose nature requires further examination. Exposed to the air, it is partly converted into resinous matter, and, by distillation with water, yields a crystalline substance (*hydrate of oil of turpentine*), composed of one atom of the oil and six atoms of water.

Blanchet and Sell consider oil of turpentine to be a mixture of two isomeric oils, called *dadyl* and *peucyl*. *Dadyl* forms, with hydrochloric acid, a crystalline compound, called *artificial camphor*, or the *hydrochlorate of the oil of turpentine*, already described*. *Peucyl* forms, with the same acid, a liquid compound. But as the boiling points of these two oils are higher than the boiling point of oil of turpentine, they are to be regarded rather as products than educts.

The ultimate composition of the oil of turpentine is as follows:—

20 atoms carbon..... 6×20 = 120
16 atoms hydrogen 16

1 atom oil of turpentine 136

* MED. GAZ. vol. xviii. p. 934.

Physiological effects: (a.) on vegetables.—Plants exposed to the vapour of this oil are rapidly destroyed.

(b.) On animals generally.—On both vertebrated and invertebrated animals it acts as a powerful poison. Schubarth found that two drachms given to a dog caused tetanus, failure of the pulse and breathing, and death in three minutes. Applied to the skin of horses, it causes vivid irritation and most acute pain. “It is a remarkable circumstance (says Moiroud), that this pain is not ordinarily accompanied with any considerable hyperæmia. It is quickly produced, but is of short duration.” The oil is sometimes employed by veterinarians as a blister, but, if frequently applied, causes the hair of the part to fall off. It is sometimes given to horses in doses of three ounces, to relieve colic. It acts on the horse as stimulant and diuretic. Speaking of the turpentine in general, Moiroud says, “they give a very decidedly violet odour to the urine, and flow in part with it. I have verified this double phenomenon on many horses to whom turpentine had been given, for some days, in the enormous doses of from ten to twelve ounces.”

(c.) On man.—Its local action on the human integument is much less powerful than that on the horse. Applied for a sufficient length of time (as ten minutes), it causes redness and smarting pain. Swallowed in moderate doses, it causes a feeling of warmth in the stomach and bowels, promotes the peristaltic motion and secretions of the alimentary canal, becomes absorbed, excites the vascular system, and acts as a stimulant to the secreting organs generally, but more especially to the urinary apparatus, and less evidently to the skin, pulmonary surface, and uterus. Its action on the urinary organs is manifested by an increased secretion of urine, which acquires a violet odour, by a feeling of warmth excited in these parts, by the occasional strangury, and by its influence over certain diseases of these organs. It promotes sweating, and communicates a terebinthaceous odour to the perspiration; and occasionally it causes an eruption on the skin. It is supposed to stimulate the mucous membrane lining the air passages, and to be thrown out of the system, in part, by the exhalents of the lungs. Its emmenagogue effect is not very obvious.

In large doses it operates as a tolerably certain and active purgative, usually without causing any unpleasant effects. “Some habits, however,” says the late Dr. Duncan, “cannot bear oil of turpentine. I have seen large doses produce temporary intoxication, and sometimes a kind of

trance, lasting twenty-four hours, without, however, any subsequent bad effect. The largest dose I have known given has been three ounces, and without injury.”

Uses.—Some of the medical uses of oil of turpentine are intelligible from its known physiological effects; others are not. The following is a brief notice of the diseases against which it is the most frequently employed.

1. *As an anthelmintic in cases of tap-worm,* oil of turpentine is the most effectual remedy we can employ. To adults it should be given in the dose of at least one ounce. I have frequently employed an ounce and a half, or two ounces, but not beyond this; though some have administered it to the extent of four ounces without injurious effects. It purges, sometimes nauseates, and occasionally produces a tendency to sleep, or slight intoxication. Its success is almost invariable, the worm being discharged in all cases which I have seen dead. A very good method of exhibition is to mix the oil with some castor oil emulsion.

2. Sometimes we employ oil of turpentine on account of its known stimulant and specific influence over the urinary organs. Thus as a diuretic in atonic dropsies, and in chronic affections of the urinary organs, especially discharges from the mucous membrane lining the urethra or bladder. I have frequently employed it with benefit as a substitute for the balsam of copaiva, in gonorrhœa, gleet, and leucorrhœa.

3. In chronic rheumatism, particularly sciatica and lumbago, it has been employed on account of its stimulant and sudorific properties.

4. In puerperal peritonitis it has been used as a kind of specific, by Dr. Brennan, of Dublin.

5. In obstinate constipation, as a purgative, it has sometimes succeeded where other cathartics have failed.

6. *As an antispasmodic* in epilepsy, chorea, tetanus, and colic, it has been used, and sometimes, especially in colic, with advantage.

7. In hæmorrhages, as from the uterus and bowels, it has been employed as an internal astringent, or styptic; and in the atonic conditions of the system, under which sanguineous discharges sometimes occur, its stimulant influence may be highly beneficial. It has been employed also with occasional benefit in purpura hæmorrhagica, but I have seen it act injuriously in this disease, while blood-letting has seemed to relieve.

8. Against biliary calculi it was at one time in use, from its supposed power of dissolving them within as well as without the body. I need only say there is no foundation for this opinion.

9. *As an external agent* it is sometimes useful in internal complaints, by its rubefacient qualities. The quack preparation called *Whitehead's essence of mustard*, and which is often used as a stimulating liniment, is essentially oil of turpentine. In chronic rheumatism, local paralytic affections, sprains, sore throat, &c. liniments containing this oil are sometimes beneficial. Warm oil of turpentine is an excellent application to severe burns or scalds, as recommended by Mr. Kentish. Lastly, this oil is sometimes applied as a styptic to stop hæmorrhage from numerous small vessels.

Administration.—As an anthelmintic, or purgative, its dose is from one to two ounces. In chronic diseases, where we wish its stimulant operation, it is to be given in much smaller doses—as from ten to sixty minims. It may be taken either in the form of emulsion or dropped on sugar. The *linimentum terebinthinæ* of the Pharmacopœia is one form for its external use.

Common Resin, or Rosin.

The residue of the process for obtaining the essential oil of turpentine is called *common resin*, or *rosin*. When the process has not been carried too far, it is termed *yellow resin*; but when it is pushed as far as it can be, without producing a complete alteration of properties, the colour of the residue changes to brown or black, and the resin is then termed *black resin*, or *Colophony*; or, from its being used by musicians to rub the bows and strings of their violins, it is sometimes denominated *fiddler's rosin*.

It is essentially an oxide of the oil of turpentine, and consists of—

40 atoms carbon.....	$6 \times 40 = 240$
32 atoms hydrogen.....	32
4 atoms oxygen.....	$8 \times 4 = 32$
	304

It is, however, not a homogeneous resin, but by the action of cold alcohol is resolved into two acid isomeric resins: that which dissolves in the cold alcohol being termed *pinic acid*, while that which remains undissolved is called *sylvic acid*.

Common resin possesses very little of the stimulating properties of the liquid turpentine, in consequence of not containing any essential oil. It is considered to have astringency without pungency.

It is never employed internally. In the form of powder it has sometimes been applied to wounds to check hæmorrhage, and is occasionally used for this purpose in veterinary practice. Its principal value is in the formation of plasters and ointments, to which it communicates great adhesiveness, and some slightly stimulant

properties. Of plasters which contain it, I may refer to the *emplastrum resinæ*, used as an adhesive plaster (MED. GAZ. vol. xviii. p. 342,) and as an ingredient of *emplastrum belladonnæ*; *emplastrum ceræ* is principally employed as an ingredient in the *emplastrum cantharidis*; and lastly, *emplastrum picis* contains turpentine. Of cerates and ointments, which contain it, I may mention, the *ceratum resinæ* (commonly called *Yellow Basilicon*), used as a stimulant dressing to blistered, scalded, or burned surfaces, and to indolent sores; and the *unguentum picis nigræ*.

Tar.

This is the Πίτλα, Πίσσα νγρὰ, Κῶνος of the Greeks,—the *Pix liquida* of the Romans and of most modern pharmacopœias.

It is obtained from the woody parts of old pines, by a kind of *distillatio per descensum*, in which the resinous and oily matters of the wood undergo a partial decomposition. Theophrastus has described the ancient mode of procuring it; and for a description and figure of the method now employed, I must refer to Du Hamel's *Traité des Arbres*.

Tar is a complicated substance, containing—

1. Pine resin unaltered.
2. Colophony.
3. Pyrogenous resins (*Pyretines*) in combination with
4. Acetic acid.
5. Oil of turpentine.
6. Pyrogenous (empyreumatic) oils.
 - (a.) Liquid (*Pyrélaines*), viz. *Kreosote*, *Capnomor*, *Picamar*, and *Eupion*.
 - (b.) Solid (*Pyrostéarine*), as *Paraffine*, *Naphthalin*, and *Pittacal*.

The effects of tar are analogous to those of the turpentine, somewhat modified by the presence of the acetic acid and the pyrogenous products. It has been employed *internally* in chronic bronchial affections, in doses of from half a drachm to a drachm, in the form either of pills or electuary. The *inhalation of tar vapour* has been recommended by Sir Alexander Crichton in phthisis; but at best it can be only a palliative, and it very frequently fails to act even thus: in chronic bronchial affections it has more chance of doing good. The method of using it I have before detailed (MED. GAZ. vol. xvii. p. 132.) *Externally*, tar has been used in some forms of skin disease (especially scalded head,) and as an application to indolent ulcers.

The officinal preparations of tar, which deserve to be mentioned, are the following:—

1. *Tur Water*, the *Aqua Picis liquidæ* of the Dublin Pharmacopœia. This once

celebrated preparation is made by mixing two pints of tar with a gallon of water: when the tar subsides the liquid is strained. The solution is acid, and contains some pyrogenous resin held in solution by acetic acid, and a little volatile and pyrogenous oil (kreosote and picamar.) Notwithstanding the high eulogium passed on it by Bishop Berkeley, it is now hardly ever employed. I have known it applied as a wash in chronic skin diseases; and occasionally it is taken internally, to the extent of one or two pints daily, in chronic catarrhal and nephritic complaints.

2. *Tar ointment*—the *Unguentum Picis nigrae* of the Pharmacopœia—is employed for scalled head.

Oil of Tar.—By the distillation of tar a volatile oil is procured, very analogous, in its physical properties, to oil of turpentine. It is employed for burning in flat-wicked lamps, under the name of *Naphtha for lamps*. It is not employed in medicine; and I only notice it on account of its being a powerful poison, and to caution you against confounding it with oil of turpentine. [For a case of poisoning by it, see the *Lancet* for March 8, 1834.]

Juniperus communis.

This is a well-known, evergreen, indigenous shrub, belonging to class *Diœcia*, order *Monadelphia*. Its fruit is usually, though improperly, termed a berry: it is, in fact, a strobile or cone, but with fleshy coalescent carpella, whose heads are much enlarged.

Juniper berries consist, according to Trommsdorff, of—

Volatile oil	1·0
Peculiar wax	4·0
Peculiar resin	10·0
Peculiar sugar, with acetate of lime	33·8
Gum, with vegetable salts	7·0
Woody fibre	35·0
Water	12·9
	—
	103·7

The ashes contained the oxide of copper.

The *essential oil of juniper* is transparent, and lighter than water; its odour is penetrating and peculiar; its taste is bitter, acrid, and balsamic. When cooled, it deposits crystals (stearoptene). The quantity of oil obtained from the berries varies considerably: 1 cwt. of common juniper berries, on the average, yield about 4 or 5 ounces of oil; while from the same quantity of fine Italian berries, 7 or 8 ounces may be procured.

Juniper berries are analogous in their operation to the terebinthinate substances: thus they promote the secretion of urine, and communicate a violet odour to this fluid; taken in large quantities they occa-

sion irritation of the bladder, and heat in the urinary passages; and Piso says their continued use may bring on bloody urine. They promote sweat, and relieve flatulence, and are supposed to stimulate the uterus. Their activity is principally dependent on the volatile oil they contain, and which, according to Mr. Alexander's experiments, is, in doses of four drops, the most powerful of all diuretics. These fruits are but little used in medicine; but where a stimulating diuretic is required, as in many forms of dropsy, they might be a useful adjunct to other medicines of this class. So also in discharges from the urino-genital organs, where the balsam of copaiva or terebinthinate medicines are usually employed, as in gonorrhœa, gleet, leucorrhœa, &c., these berries, or, yet better, their essential oil, might probably be administered with advantage.

The dose of the berries, *in powder*, is one or two drachms. An *Infusion* (prepared with an ounce of the berries and a pint of boiling water) may be substituted for the powder: it may be taken to the extent of a pint in 24 hours. From two to ten or more of drops of the *oil of juniper* may be administered as a dose, either in the form of pills, or diffused through water by means of sugar or mucilage. The *compound spirit of juniper* is sometimes added to diuretic mixtures: its dose is from one to four drachms.

Juniperus Sabina.

This is an evergreen shrub, a native of the south of Europe, but cultivated in the gardens of this country. The parts employed in medicine are the tops and leaves. I am unacquainted with any chemical analysis of them, but we know they contain *tannic acid* and *volatile oil*, on the latter of which substances the activity of this shrub, as a medicine, depends.

Oil of savine is obtained, like most other essential oils, by distillation. It is a transparent liquid, having the unpleasant odour of the plant, and a bitter acrid taste. It is lighter than water. Hoffman estimates the quantity of oil obtained from 100 parts of the fresh herb, at 16·6; but this is, I suspect, much too large. Of course, the dried contains less than the fresh herb. It is a powerful local irritant, and when applied to the skin, acts as a rubefacient and vesicant: swallowed, it occasions vomiting and purging, and the other symptoms of gastro-intestinal inflammation. In its operation on the system generally, it is a powerful stimulant, and exercises a specific influence over the urino-genital apparatus, which it appears to irritate or stimulate very powerfully. Hence, in cases of amenorrhœa depending on deficient action of the uterine

vessels, it acts as a powerful emmenagogue, and in cases of pregnancy it has a strong tendency to produce abortion. For the latter purpose, it is not unfrequently employed by non-professional persons, and, therefore, deserves particular notice, since it is a substance likely to become the subject of medico legal investigation.

That it may frequently fail in bringing on premature parturition, is shown by the case related by Foderé, of a woman who, in order to provoke abortion, took every morning, for twenty days, one hundred drops of this oil, and yet at the full time brought forth a living child. It ought to be well known, that even in those cases in which it may succeed in expelling the contents of the uterus, it can only be at the risk of the woman's life. The dose of this oil, when used medicinally, is from two to five drops.

Savine herb owes its activity to the essential oil, and, therefore, possesses similar properties. Thus it is a local irritant, and when swallowed in large quantities occasions gastro-intestinal inflammation. It has a stimulant operation on the system generally, and exercises a specific influence over the urino-genital organs.

Internally, savine or its essential oil is not much employed by medical men in this country. It may be given where we wish to stimulate the uterus, as in amenorrhœa, or chlorosis, depending on a torpid condition or a deficient action of the uterine vessels. It has also been employed in chronic rheumatism, and has likewise been given as an anthelmintic.

As an external agent it is much more frequently used. Equal parts of savine powder and verdigris form one of the most efficacious applications for the removal of venereal warts. In the form of ointment, it is an excellent means of promoting discharge from blistered surfaces. In the form of either decoction or poultice it has been applied to foul indolent ulcers.

The dose of savine in powder, is from five to fifteen grains; but this mode of exhibition is a bad one, since, to pulverize the herb, it must be so dried as to deprive it of the greater part of its active principle—the oil. The oil is, perhaps, the best preparation, given in the doses already mentioned. The cerate of savine is employed mostly for promoting discharge from blistered surfaces.

[It is proper to state that the order in which Mr. Pereira considers the vegetable materia medica, in the lecture-room, is nearly that followed by Mr. Lindley, in his "*Natural System of Botany*," and not that which, for convenience, has been adopted in the published lectures.]

ON SCURVY.

Extract from the Annual Report of
DR. MURRAY,

Principal Medical Officer at the Cape of Good Hope, for 1836.

Communicated by Sir James M'Grigor, Bart.

[Concluded from page 910.]

III.—*First Report of Assistant-surgeon Malcolm, in charge of the 72d reg.*

Graham's Town, 28th January, 1837.

IN September 1836, I admitted into hospital several patients from the out-posts, who had suffered from scorbutus, but they were all so much improved by the time they reached this place as not to require medical treatment, and therefore I had not then an opportunity of forming much opinion respecting the causes, nature, and proper mode of treating this disease. Since that period, however, many more, and some very severe cases, have been brought under my observation; but few only from the commencement of the disorder: I admitted also one case of relapse.

I have never been at the out-posts, where the disease chiefly originated and prevailed, and had not an opportunity of observing the constitutions and mode of living of the individuals, previously to their becoming attacked; yet, what I have been able to collect from them after coming under my charge, may throw some light upon the subject under investigation; and should my statements be at variance with those of others who have been on the spot, it must be attributed to incorrect or imperfect information, and not to inattention on my part.

I shall in the first place give an account of such cases as came under my observation from the commencement.

1st CASE.—John Wilson, late a private in the 75th regiment, was confined in the civil jail on the 10th October, 1835, and had never been in the province of Queen Adelaide. Previous to his confinement he had been accustomed to partake of a liberal allowance of spirits daily, but after his confinement he tasted none, and his daily food consisted chiefly of 1 lb. bread, and 1 lb. of fresh meat made into soup.

In the end of November following, he was attacked with dysenteric symptoms, and pain in the right leg, for which he was under treatment about six

weeks: the pain of the leg did not entirely subside, and in February, 1836, it increased, and the back part of it assumed a bruised-like appearance, which gradually extended to the ham. His gums also became swollen and tender, and occasionally bled. His bowels were relaxed, and the motions sometimes contained blood; but his appetite continued; and, with these exceptions, his general health seemed pretty good. He was cured by (or at least he got well under the use of) wine, bark, vegetable acids, occasional purgatives (but not of salts;) and alum gargles.

In the beginning of November 1836, a petechial eruption appeared on his arms, trunk, and face; and this was succeeded by a pustular eruption. His mouth became sore, and the roots of the teeth, both externally and internally, were surrounded by dark red granulations which were easily made to bleed. The same treatment was adopted as before, and at this date, 28th January, 1837, he is *nearly well*.

I have to remark that during his residence in jail, he has had good bedding, no work, and been allowed to take exercise in the jail yard, and I attribute his disease to the sudden change from over-indulgence in drinking, to abstinence, with want of employment and free exercise, and the depressed state of his mind.

2nd CASE.—Private John Atkinson, 27th regiment, received an injury in the head in March 1836, which produced considerable tumefaction; but he was soon afterwards able to go on detachment to Bathurst, where the injured part suppurated, and continued for a considerable time to discharge thin matter: he was sent to my hospital on the 1st September following, with a small circular opening in the scalp, connected with a bit of diseased bone, (the consequence of the injury,) which afterwards exfoliated: he complained at the same time of great pain in the right scapula.

He was placed in a ward with some scorbutic patients, and on the 14th November, being in good health, and feeling but little uneasiness in his head, he was discharged to quarters, to make room for a number of additional scorbutic cases from the 75th regiment.

On the 4th December he again presented himself at the hospital, stating, that since two or three days, the former

pain of his shoulder had returned; that he had also got pain of his right leg; and that he felt lassitude, general debility, and faintness. On examination of the extremity, it was found to be discoloured and studded with petechiæ, particularly on the exterior and posterior part, for three inches above and below the knee. During the time he was in hospital, his diet had been nutritious, and in quarters he had coffee and bread for breakfast and supper, and soup and meat for dinner; his bowels had been regular, and appetite good; and he had tasted no spirits, but drank half a tumbler of wine daily.

In three days after admission, the petechiæ vanished, when several parallel stripes of ecchymosis appeared in the ham, as if the skin had been folded and then much bruised; and, upon the appearance of this ecchymosis, the pain of the part subsided. His gums were not in the slightest degree affected; his urine was high coloured at first; bowels pretty regular.

In the beginning he was treated with colchicum and tincture of opium, to relieve the pain, and had throughout nutritious diet, with 4 oz. of wine daily; also lime juice, vinegar, and sago; friction with warmth to the leg; and, when his bowels were not sufficiently open, aperients were given.

Remarks.—Here is a case that would be put down by some as having arisen from contagion; but if this had been so, others in the same ward, placed equally near to the scorbutic patients, and some of them for a much longer time, would surely have become affected, which did not happen. It could not be attributed to over-exertion, want of vegetables, exposure to atmospheric vicissitudes, nor to any irregularity or sudden change in his manner of living. It occurs to me, that the injury of the head, and the long-continued discharge from the wound, had to do with its origin; but then it will be observed, that he got cured of the scurvy before he quite recovered from the effects of the injury, which militates against this conjecture. The cause in this case, therefore, is certainly obscure.

I shall now give a general account of the disease as it appeared before me.

Many of the cases exhibited only slight discoloration of the legs, generally of one, but sometimes of both; in conjunction with this symptom there was

œdema, and always some rigidity of the muscles. The gums were most usually, but not invariably, affected; in some the affection was slight; in others unhealthy granulations sprung up to a level with the teeth, which became loose, and there was a continued flow of saliva, and occasionally of dark blood, from the mouth; in some there was œdema of the face and head, and in one instance this extended to the chest, producing great difficulty of breathing: several of the patients were affected with severe dysentery, and one was carried off by it; but in this instance, and perhaps in some others, this symptom might have been produced by exposure to cold and wet on the journey from the advanced posts. Generally speaking, the bowels, I would say, were inclined to be torpid. The respiration was not usually affected, except in cases attended with œdema, in which it was laborious. No pain was referred to any of the internal viscera. In some, the pulse was soft and slow; in others, it was small and quick; the appetite was almost invariably good; the urine at the commencement was high coloured, and in some instances of a deep red appearance.

My treatment consisted in generous diet; port wine; porter; (but no spirits,) and vegetable acids, as lime juice and vinegar. I tried the nitras potassæ without any apparent advantage. The gargles used were of mineral acids, alum, and chloride of lime. Nitrate of silver was sometimes required to be applied in cases of severe hæmorrhage from the gums. Castor oil was used as a purgative in the commencement; and when the patient's strength increased, sulphate of magnesia was employed.

I have no doubt that had either bleeding or strong saline purges been used in the severe cases, they would have sunk; and I further think, that if a vein had been opened, it would not have united; in short, that the antiphlogistic practice would not have been advisable in any of the cases. The rapidity of recovery effected by change of air, comfortable quarters, the liberal use of port wine, and such like treatment, was surprisingly great, except in the man who was in a moribund state at the time of his admission into my hospital.

The following is the dissection report of this case, from which one might be led to suppose that venesection would

have been useful in it; but at the time I first saw him, he was sinking from mere exhaustion:—

Autopsy of Andrew Mearns, 75th regiment, 14 hours after death.

Externally, considerable blackness about the back and shoulders. *In the chest*, pleural adhesions; lungs not engorged; small tubercles in the upper part; otherwise healthy. The pericardium contained 8 oz. of sero-sanguineous fluid; heart healthy. *In the abdomen*, liver enlarged, and of a dark brown colour. The blood-vessels throughout this cavity much distended; the small intestines of a bright red colour; the large intestines exhibited an ecchymosed appearance, similar to that observed on the exterior surface of the body; spleen natural.

Speaking generally of the treatment, I am inclined to attribute the rapid recovery of the cases, more to the change of air and scene, giving stimulus to the body or mind, than to the change of diet, as the commencement of improvement visibly took place immediately on the patients leaving the place where they had become affected; which could not arise from any improvement of diet, as that was generally of a worse description than they had got in hospital. This goes far, therefore, to controvert the opinion, that scurvy is caused by scanty diet, or over fatigue. The men attacked by this disease have been, generally speaking, if not habitual drunkards, confirmed toppers, and, as they themselves expressed, never lost an opportunity of getting drunk: it must be particularly noticed, however, that in the New Province they had fewer opportunities of over-indulgence than before, and that occasionally they had no sort of liquor at all; some of them even did not partake of an allowance which they could obtain on paying for the same, nor of the portion granted gratuitously three times a week. The disease attacked some men who had never been addicted to the vice of drunkenness, and likewise a few of the females; so that some other cause of it, besides drunkenness, has to be looked for.

Those usually suspected, are over-exertion, depressing passions, want of proper protection against the vicissitudes of climate, want of vegetables, insufficiency of nutritious food, and

impure water ; but a minute examination of these supposed causes is required to establish their validity, as well as the consideration of many circumstances preceding, and subsequent to, the breaking out of the disorder.

At the beginning of the war, in the end of December 1834, the 75th regiment was on the Frontier, and had a good deal of patrolling. In the beginning of 1835, the 72nd arrived on the Frontier from Cape Town, and had similar duty. The 75th remained at Graham's Town and on the Colonial Border, while the 72nd advanced into Cafferland, and underwent great hardships in marching against the enemy, recapturing cattle, and building forts and huts, till peace was concluded in September of that year. During this time they had good nutritious food ; and although they had only one blanket, and were obliged to sleep on the ground, they enjoyed excellent health. In September, the 75th regiment moved up into that portion of Cafferland called the Province of Queen Adelaide, and relieved *part* of the 72nd regiment.

The 75th had not the erection of so many forts and huts as the 72nd ; but whether they had more hardships, or more severe duties of any other kind, in the New Province, I am not aware ; this much, however, I know, that the 72nd men were up at sun-rise, and kept constantly employed all day in one way or other, and if the 75th had even equally severe duties, they could not well have more so.

The 72nd men were in the habit of collecting such esculent herbs as they find for their soup ; and laid out their money in supplying themselves with tea, coffee, sugar, and other like comforts, in addition to their rations ; and very few of those of the regiment who remained in the New Province became affected with scurvy.

The men of the Cape corps, and of the provisional Hottentot infantry, serving along with the 75th regiment, entirely escaped this malady. The query then is, how came the men of the 75th regiment, living under similar circumstances, to suffer so much from it ?

It may be said that the Hottentots being natives, and not accustomed to so many comforts as European soldiers, were less disposed to be acted upon by the exciting causes : but why the dif-

ference between the men of the 72nd and 75th ?

From all the facts and circumstances I have been able to collect, I am inclined to think, that some debilitating cause or causes must have predisposed the constitutions of those who became affected ; whether this was the deficiency of proper wholesome nutritious diet, (which I doubt very much,) or the inability to digest that which would keep others in good health, as we see happen in men denominated *hard livers*, who instead of being able to take a nutritious meal in the morning, fly to spirits, by which the tone of their stomachs is injured, and their constitutions undermined, I am not able to say : the effect of leaving off this morning dram, whether voluntarily or from necessity, is known to affect the health. A strongly enervating effect is also produced by desponding feelings ; but how far these existed, and tended to produce the disease in question, I leave to the consideration of those who had an opportunity of examining and judging, by being on the spot.

Second Report of Mr. Malcolm.

20th February, 1837.

I beg to add a few cases that have come under my observation since writing the former report.

3rd CASE.—Private John M'Donald, 72d regiment, ætatis 27, admitted 13th January, 1837, from Botha's post, with fungoid, sloughy, bleeding granulations of the gums, without any pain or discoloration of the extremities. He states that while stationed at Fort Cox, in the New Province, in the beginning of 1836, he had a slight attack of the same symptoms ; that in April he came to Graham's Town, and remained there till October, when he went on duty to Botha's post ; and that after being there two months and a half, he relapsed, and was obliged to be sent here to hospital.

Bowels regular ; appetite good ; pulse small and weak. To have half diet ; 4 oz. of red wine, 2 oz. of sago, and lime juice.

25th January.—The above diet has been continued, with the exception that 3 oz. of rice and half a pint of milk were substituted for the 2 oz. of sago. On the 21st, stiffness and discoloration of the back part of the left thigh have come on, and the granulations of the

gums are only slightly reduced. Continue as before.

27th.—Not finding benefit from the treatment hitherto pursued, I had recourse to venesection ad $\text{℥} \text{ xv.}$; and ordered $\frac{1}{2}$ oz. of Epsom salts every morning. Same diet continued.

28th.—Blood considerably buffed, and slightly cupped; with a large proportion of serum. Feels lighter; pulse a little fuller, and not so quick. Same diet.

31st.—The back part of the thigh is of a darker colour than before; gums more healthy. Same diet.

February 1st.—The discoloration of the leg is extended, and the stiffness increased. Venesection ad $\text{℥} \text{ iv.}$ Cont. alia.

2nd.—Blood slightly buffed; no improvement of the leg. Habt. magnesiæ sulph. $\text{℥} \text{ i. om. mane.}$ Continue diet as before.

3rd.—The appearance of the leg and gums is improved. Continue.

10th.—The leg and gums are nearly well; but the gums still look tender; general health good. Continue.

Remarks.—Finding the result of the tonic plan unsatisfactory after a fair trial, and knowing that venesection had been recommended, I had recourse to it, and the effect was decidedly beneficial.

From the success with which I had before treated other cases by liberal diet, wine, sago, and lime juice, I was induced to continue this patient upon the same; but latterly I gave him salts daily.

4th CASE.—Private James Gallaher, 27th regiment, October 31st, was admitted on the 6th January, with considerable œdema of the right leg, extending from the knee to the foot, slight discoloration on the forepart, and several dark spots on the inside of it. He had also considerable swelling of the gums, with salivation. Bowels inclined to be costive; pulse small and feeble.

To have half diet, 4 oz. port wine, 2 oz. sago, lime juice, and alum gargle.

7th.—To have $\text{℥} \text{ j.}$ of Epsom salts; the leg to be rubbed with camphorated oil, and rolled in flannel bandage.

11th.—Gums bled yesterday. Continue diet.

16th.—Numerous small spots came out on the leg last night, but without pain.

18th.—The petechiæ have in part disappeared, but the leg is œdematous and rigid; gums improving very slowly.

25th.—Granulations of the gums of a dark red colour. Same treatment continued.

31st.—The leg and gums remaining so long without improvement, indicating the treatment to be unsatisfactory, I ordered venesection ad $\text{℥} \text{ xviii.}$ Same diet, &c. continued.

February 1st.—Blood buffed; the granulations of the gums seem on the increase; pulse rather fuller. To have magnesiæ sulph. $\text{℥} \text{ ss daily.}$ Diet, wine, &c. as before.

2nd.—Leg still œdematous, but not discoloured; gums of a bright colour. Rept. venesection, ad $\text{℥} \text{ xij.}$ Cont. alia.

3rd.—Blood buffed; feels lighter; pulse fuller; gums improving.

10th.—Is better, and able to use the leg; gums much improved; his bowels daily opened by salts. Same diet.

13th.—Discharged *convalescent* to Bathurst.

Remarks.—The antiphlogistic plan of treatment, though not carried to the full extent, had a most beneficial effect in this case; but I would not rashly form a decided opinion as to the propriety of the general employment of venesection from these two cases; more particularly as I have seen so many of a much more severe nature get well under the use of generous diet, with wine, and other remedies.

5th CASE.—20th January.—A girl, æt. 10, after having suffered from low continued fever, became covered with spots, like flea-bites, all over the body. Her gums were soft; pulse quick; skin hot. Tongue foul; bowels costive. Ordered generous diet, wine, acids, quinine, and castor oil.

21st.—Has had bleeding from the gums and mouth; bowels not moved by the castor oil. Ordered a saline purgative in camphor mixture; also hyd. cum creta gr. iij. ter in die.

25th.—No better; stomach very irritable. Omitt. hyd. cum creta; habt. olei ricini, $\text{℥} \text{ vi.}$; et haust. salin.

28th.—No improvement; great pain of bowels. Rept. hyd. cum creta; hot fomentation to the abdomen. Continue wine, &c.

30th.—An eruption of purple spots has appeared on the skin; is not better. Hab. ol. terebinth. $\text{℥} \text{ x.}$; secunda quaque hora. Cont. mist. salina.

February 3rd.—Violent pain of back, abdomen, and limbs; skin hot; was delirious in the night, and vomited.

Dark blood comes from all parts of the mouth. Omitt. ol. terebinth; hab. haust. Salin. sæpe in die.

4th.—Is not better. Having lately witnessed the good effects of venesection in some scorbutic cases, I advised it here, ad ʒv. The wine was omitted; saline draughts continued; and 2 grains of calomel ordered three times a day.

5th.—Blood drawn contained no serum. She feels better to day; pulse improved; skin cool; pain of abdomen removed; bleeding from the gums diminished. Ordered a mixture of liq. ammon acetat. with camphor emulsion; also ripe fruits.

8th.—Is rapidly improving. Ordered quinine; ripe fruits continued.

20th.—Convalescent.

Remarks.—This was called a case of purpura, which appears to be a modification of scorbutus; and the report of the effect of the depletory treatment adopted on the 5th, stamps its superiority over the tonic and stimulatory plan.

MEDICAL GAZETTE.

Saturday, Sept. 23, 1837.

THE MEDICAL MARKET.

THE gentlemen of University College have at length met with their match, and some of those ingenious little pieces of charlatanism which they have for the last few years been practising, are now turned against themselves. They built an hospital just large enough to come within the letter of the "regulations," and in hopes of getting the public to support it, they bestowed upon it a name, that of "North London," calculated to disguise its connexion with the medical school of which it was in reality but an appendage. As there were no funds with which to support it, the physicians and surgeons generously resigned what it never was in their power to have obtained—viz. the pupils' fees; and as these were not to go into their own pockets, magnanimously resolved to undersell the other hospitals, making their *clinique* the cheapest, while their lectures were by much the dearest in the metropolis. In

process of time, however, it struck certain other teachers that it would be a good speculation to establish a cheap school in the neighbourhood of the cheap hospital. Accordingly Dr. Ryan, Mr. Wardrop, and some others, have resolved to give lectures in Charlotte Street, Bloomsbury; and being anxious to identify their establishment with the hospital in the vicinity, they designated it "North London School" of Medicine. No sooner was this done than a council of war was held in Gower Street, and within a few days a scaffolding might be seen in front of their Hospital, and workmen, with chisel and hammer, like "Old Mortality," in the novel—not, however, to engrave the letters more deeply on the tablet, as he did, but absolutely to efface them, and wipe the "North London" out of existence. To this work of destruction succeeded the reproductive process, and presently "University College" might be seen in goodly *alto-relievo*, demonstrating the apprehensions which had been excited by the manœuvre of their opponents.

Thus they flattered themselves they had out-generalled their enemy. But, behold! scarcely was this done ere a new competitor started up, at the nervous touch of Dr. Marshall Hall, under the very imposing title of "Sydenham College." Here, then, was another foe, and that, too, at their very gates. But mark the resources of those imbued with truly *liberal* principles. Another conclave was assembled. The root of the new evil, it was palpable enough, consisted in the cheapness of the hospital—that very pitiful expedient by which they had hoped to undersell other schools, was now turned against themselves; and in order to demonstrate to all the world that making the fee so low had originated in a pure zeal for science, and that we and others had been most unjust in attributing it to mercenary causes, they came to a resolution—that all pupils who do not attend their lectures in

*University College, shall pay an extra fee for admission to their hospital; in other words, they offer a handsome bonus to those who refuse to become disciples of the modern Sydenhams! Now we by no means approve of beating down medical education to the lowest possible point, because it leads to persons of defective preliminary information and culture turning to physic as a sort of *pis aller*, and thus derogates from the standing and dignity of the profession; but at the same time we must protest against this innovation—this tax upon all who do not attend their lectures—as utterly at variance with all the principles and professions which have ever been avowed by the gentlemen of University College. We have not yet, however, come to the end of this strange eventful history, for we perceive that the professors of Sydenham College (most affectedly so called), on this announcement of their opponents, have forthwith published an advertisement to inform the public that *they* will pay whatever additional tax is laid upon their pupils at University Hospital!!*

The whole together forms one of the most discreditable instances of the members of a liberal profession endeavouring to depreciate and undersell each other, which we have ever met with; and reminds us of the proprietors of two opposition coaches, who, having both come the length of carrying their passengers for nothing, one, to give his rival a *coup de grace*, offered to treat all who went in his carriage with a good dinner. He thus succeeded in obtaining the patronage of the public—and was ruined by it.

CONCLUSION OF THE VOLUME.

THE present No. being the last of the volume, we have been desirous of concluding several subjects previously begun. This circumstance has compelled us to cut short the editorial department, as well as to omit the communications of various correspondents, to whom we have to apologize for the delay.

BRITISH MEDICAL ASSOCIATION.

Liverpool, Monday, Sept. 11, 1837.

[THE following is taken partly from the *Athenæum*, and partly from an original report.]

President—WILLIAM CLARK, M.D.

Vice Presidents—Jas. Carson, M.D. F.R.S.; Peter Mark Roget, M.D. Sec. R.S.; Robert Bickersteth, Esq.; Professor R. T. Evanson, M.D. M.R.I.A.

Secretaries—James Carson, jun. M.D.; J. R. W. Voss, M.D.

Committee—Neil Arnott, M.D. F.R.S.; Richard Bright, M.D. F.R.S.; Hugh Carlisle, M.D.; James Copland, M.D. F.R.S.; Professor Richard T. Evanson, M.D. M.R.I.A.; Richard Formby, M.D.; Augustus B. Granville, M.D. F.R.S.; John Houston, M.D. M.R.I.A.; James Johnson, M.D.; James Macartney, M.D. F.R.S.; Charles Herbert Orpen, M.D.; Wm. Henry Porter, Esq.; Charles B. Williams, M.D. F.R.S.; John Yelloly, M.D. F.R.S.

DR. ROGET stated that he presided on this occasion owing to the absence of Professor Clark, whose arrival was expected.

The second report of the Sub-Committee, appointed by the Association to investigate the *Motions and Sounds of the Heart*, was read by Dr. Charles Williams.

Before describing their last investigations, the Committee stated that they had found frequent opportunities of confirming the conclusions of their former researches on the natural sounds of the heart; and these conclusions not having been shaken by any subsequent experiment, or well-founded objection, the Committee consider them established; viz. that the first sound of the heart is *essentially* caused by the sudden and forcible tightening of the muscular fibres of the ventricles when they contract; and that the second sound essentially depends on the reaction of the arterial columns of blood on the semilunar valves of the arterial orifices, at the moment of the ventricular diastole. Certain other circumstances were stated, as being capable of adding to or modifying these sounds.

The chief subjects of their present inquiry were, the unnatural, or morbid sounds, sometimes heard in the heart and arteries; and in investigating the

causes of these sounds, which Laënnec compared to blowing, filing, sawing, purring, and cooing, or musical sounds, they sought to determine, 1st, What is the essential physical cause of these sounds; and 2d, in what manner disease can develop this physical cause: a correct answer to these inquiries would determine the value of these sounds as signs of disease.

The Committee found that they could produce precisely the same sounds in every variety, by impelling, in various modes and degrees, a current of water through Indian rubber tubes; and by numerous experiments, they ascertained the relations which the character of these sounds bore to the nature of the impediment, and to the force of the current. They obtained similar results on experimenting on the arteries of living animals; and discovered, that in the human subject the same sounds may be produced by simple pressure, not only in the arteries, but in the veins also. They found that the sounds heard in the neck, described by some eminent French writers under the names, "bruit de diable" and "bruit de mouche," as signs of a particular morbid condition, which requires the use of certain remedies, may be produced at will, by the pressure of the stethoscope on the jugular veins of the healthiest persons; and is, therefore, not necessarily a sign of disease, but has probably been accidentally caused by the same pressure, in many cases in which it has been considered as a morbid sign.

The Committee conclude, in answer to the first inquiry, that a certain resistance to a moving current is the essential physical cause of all the various sounds in question, and that this resistance is generally given by some pressure on, or impediment in, the tube through which the current moves; but that sometimes the resistance is caused by a change in the direction of the current, by which it is made to impinge on the walls of the vessel which contains it.

The second inquiry the Committee think can be fully answered only by extensive clinical and pathological observation, with due regard to the previous investigations; but they have planned some experiments that promise to elucidate certain obscure points of the pathology and diagnosis of diseases of the heart and arteries, the knowledge of

which would be of direct practical advantage. These points the Committee propose to investigate, if the Association think fit to re-appoint them to this office.

The thanks of the Section were voted to the Sub-Committee, and the members were requested to continue their labours.

Mr. BRETT then read a paper—

"On the Physical and Chemical Characters of Expectorations in different Diseases of the Lungs, with some Preliminary Remarks on the Albuminous Principles existing in the Blood."

The remarks on the blood referred more particularly to a general view of the albuminous principles existing in that fluid. The simplest view which could be taken of the vital fluid, is that which refers its constitution to a mixture of fluid, or soluble, and insoluble albumen,—the one constituting what is termed the serum, the other the crassamentum, or cruor. The author of the paper then proceeded to relate the different opinions which had been published on the specific gravity of the blood, quoting the statements of Berzelius, Gmelin, Dumas, and other chemical philosophers of distinction; at the same time remarking, that all these statements did not differ materially from each other, and might be considered as depending upon the fact, that the specific gravity of the blood might differ slightly, not only in different individuals, but in the same individual at different times. He then noticed the different modifications of albumen existing in the serum, which he divided into three forms:—1st, Soluble or free albumen, capable of undergoing coagulation by heat; 2dly, Albumen in combination with a basic body, viz. soda; and 3dly, A form of albuminous matter, which he termed the "colourless self-coagulating albuminous principle."

The crassamentum, as it is commonly called, of the blood, he also considered as made up of more than one form of solid albuminous matter; viz. of solid albumen capable of undergoing decoloration by ablution with water, and of solid albumen incapable of being decolorated by the same process; the former being insoluble, and constituting what is commonly understood under the name of fibrine, the latter soluble in water, and frequently designated red particles,

or *hæmatosine*. Some remarks then followed on the microscopic examination of the blood, and on the different forms of the globules in different animals. The author then proceeded to detail the various physical characters of the expectoration in the healthy condition of the lungs, as well as in its varied morbid states. The physical characters of saliva were entered upon, and the globularity of its opaque portions alluded to. The physical characters of expectoration in the pituitous catarrh of Laennec were then detailed; also those of the expectoration in acute and chronic bronchitis—in hæmoptysis, or pulmonary apoplexy—in pneumonia—and lastly, in different stages of phthisis. The chemical characters of these different modifications of expectoration were then fully treated of, and reference made to a tabular arrangement which the author had embodied in his papers, exhibiting the action of certain re-agents—first, on saliva, and then on the different forms of sputa, the physical characters of which had been already fully noticed. It was remarked, that saliva did not contain any soluble albumen capable of undergoing coagulation by heat; neither did it contain any solid albuminous matter, the main bulk of the solid contents of that secretion being mucus. The mode of analysis adopted was, to deject saliva in cold water, and then subject the filtered fluid to the action of certain re-agents; another portion of saliva was then dissolved in a caustic alkali, and the alkaline solution subjected to the agency of certain tests. The quantity of solid matter in a given weight of saliva was also announced, as well as the saline matters, and their chemical nature stated: different authorities bearing on the subject were quoted, especially the statements of Berzelius and L. Gmelin. The chemical characters of expectoration in pituitous catarrh were then described, and a mode of analysis was stated to have been adopted, analogous to that employed in the case of saliva: this modification of sputum was regarded as purely mucus, possessing no albuminous matter; it was found to contain a very small proportion of solid matter in a given weight, but the quantity of saline matter was found to be considerable, when compared with the quantity of solid matter; and this saline matter the author's experiments led him to con-

clude was diminished in quantity as the disease progressed. The chemical nature of sputum of the acute and chronic bronchitic character was then entered upon, and noticed as differing in certain respects from the preceding form of expectorated matter, in containing, for example, a much larger proportion of solid matter in a given weight than was found in simple pituitous expectoration; and generally a smaller proportion of saline matter; it also differed in containing, generally speaking, small quantities of soluble albumen, capable of undergoing coagulation by heat.

Pneumonic expectoration was then treated of, and noticed as principally made up of a tough mucoid secretion intermixed with blood, to which last was owing its peculiar rust or brick-red colour, and also its powers of undergoing, to a certain extent, coagulation by heat when mixed with water and filtered; it was also found to differ from most other forms of expectorated matter, in containing no inconsiderable quantity of oxide of iron, derivable from the blood with which it is impregnated. Phthisical expectoration was the last form of sputum, the chemical characters of which were described. It was noticed as differing materially in different stages of the disease—in the earlier and middle stages scarcely not at all—for the most part, at least, differing from the expectoration met with in chronic or acute bronchitic affections: in the latter stages, however, not unfrequently possessing the characters of a simple collection of puriform matter, containing very large quantities both of soluble and solid or insoluble albumen; much solid matter also in a given weight, with the ordinary saline matters found in other varieties of sputa, superadded to which was a notable proportion of oxide of iron. It was stated, that in no disease, except phthisis, did the expectoration contain so much soluble albumen capable of undergoing coagulation by heat; and also in no disease except pneumonia was there so large a proportion of solid matter in a given weight of the expectoration: this observation referring, however, to the sputum in the latter stages of phthisis, where it puts on the character of a collection of puriform matter. Allusion was then made to the fatty matter existing in expectorated fluids, which was found to be the same in quality in almost every variety of

sputum, but differing in quantity, being much greater in quantity in well-marked phthisical expectoration than in any other variety. The fatty matter was peculiar, too, from the high temperature which it required for its fusion, it being considerably higher than that necessary for the fusion of the more ordinary forms of fatty matter, and even higher than that required for cholesterine: this fatty matter was soluble in alcohol and ether, being deposited from the former when its boiling solution cooled. The author also referred to the power which a galvanic current, even of low intensity, possessed of coagulating the aqueous fluid, obtained either by digesting saliva, or any of the modifications of expectorated matter before alluded to, in water, and filtering the fluid. This coagulation was not regarded by the author as proving the presence of albumen, because, in cases in which the galvanic current effected the change in question, the most delicate re-agents with which chemists are acquainted for the detection of albumen, failed to detect the slightest trace. The author then detailed his experiments on crude and softened tuberculous matter; he submitted the former to the action of the same re-agents as he employed to re-act upon ordinary fibrine, and was led to conclude that the crude tubercle did not differ chemically from solid albumen or fibrinous matters. The mode of analysis employed in examining the crude and softened tubercle, was the following:—It may be observed that the crude tubercle was examined side by side with ordinary fibrin; the crude tubercle was dissolved in a weak solution of caustic potass; a similar solution of fibrinous matter was obtained, and both submitted to the action of the same re-agents, with results as nearly similar as possible. The agents employed were the mineral acids, acetic acid, and ferrocyanide of potassium, tinct. galls, corrosive sublimate, &c. The softened tuberculous matter was first dejected in water, and then filtered; the filtered fluid, when submitted to re-agents, was found to contain soluble albumen,—that portion of the tubercle insoluble in water, was dejected in a weak alkaline fluid, by which a solution was obtained. This alkaline solution, when submitted to the necessary re-agents, indicated the existence of solid albuminous matter, or fibrin; hence the softened tubercle was

regarded as analogous in its chemical characters to purulent matter. Experiments were then made on the tuberculous matter which had undergone perfect softening; and the result was, that the latter was chemically identical with pus; from which it was deduced that fibrinous matter was, by a process of softening or fluification, converted into actual pus, and hence a fruitful source of the abundantly albuminous fluid found in the expectoration of patients in the latter stage of phthisical disease. The author then concluded his paper, by stating the results of a quantitative analysis of the expectoration of a marked puriform character, obtained from a patient in the last stage of phthisis. It was found to consist of water—albuminous matter, with a little mucus—extractives, soluble in alcohol; ditto, soluble in water; fatty matter—saline matters, consisting of the alkaline chlorides, phosphates and carbonates, with earthy phosphates and oxide of iron.

Tuesday, September 12th.

DR. CARSON IN THE CHAIR.

Dr. HOLLAND read a paper—

“On the Cause of Death from a Blow on the Stomach, with remarks on the means best calculated to restore Animation suspended by such accident.”

The writer commenced by stating, that the occurrence of death from a blow on the stomach has never received any full or satisfactory consideration. It is cursorily alluded to in treatises in which cases of sudden death, from a supposed impression made upon the nervous system, are discussed; and it is mentioned in this connexion from being imagined to depend on the same mysterious cause. The cause of death from a blow on the stomach is referred to a shock communicated to the nervous system, by which the action of this organ is arrested. The primary impression is considered, by some, to be made upon the semilunar ganglion. The situation which this occupies, and not any peculiarly intimate connexion which it has with the heart, has suggested this explanation. Were it unequivocally shown that the heart derives its contractile power from this ganglion, and that this is injured, or in any way affected by the blow, cause and effect would be too indissolubly united to admit of dispute. No one has, however, shown that the

heart receives its nervous energy from such source, nor are there any facts demonstrating that this ganglion is injured, or its functions disordered by a blow. No distinct evidence is, indeed, presented; proving that this occurs; writers on this subject speak only of suspended or deranged nervous action, and the effects of a shock on the nervous system.

The circumstances which have led to the adoption of the prevailing notion, may, perhaps, be reduced to three:—1. Situation of the ganglion. 2. The spot where the blow is received. 3. And the consequent fatal effect. These circumstances are the only reasons adduced; and yet, without other corroborating facts, they are scarcely deserving of notice. If the plexus or semilunar ganglion be considered as a centre of nervous energy, this does not supply the heart or chest generally, but, indeed, the aorta and abdominal viscera; and hence a blow on the pit of the stomach, were its effects transmitted directly through the nervous system to the organ supplied by it, would be more likely to disturb the functions of these viscera than the action of the heart. It is not unphilosophical to contend that an injury inflicted on this centre will disturb the organs dependent upon it; but the heart receives nervous influence from the brain, spinal cord, and sympathetic nerve, previous to the formation of the lunar plexus, or ganglion; and, therefore, if affected through either, it cannot be explained to depend on the deprivation of nervous fluid, but on the transmission of an impression or undulation.

In entering upon this inquiry, the first step was to determine the important organs peculiarly liable, from their situation and functions, to be deranged by a blow on the stomach. Those were the aorta and vena cava ascendens. The pit of the stomach is unquestionably the situation where these large and important vessels are alone liable to severe functional derangement from a blow. Above this point they are securely protected by the parietes of the chest, and below it by the mass of abdominal viscera. A blow in this situation has necessarily a tendency, whether it strike the artery or the vein, to urge the circulating fluid towards the heart. Nature, by means of the semilunar valves, has prevented the frequent occurrence of such an accident; but the violence of

the blow is quite sufficient to overcome this obstacle or barrier to the retrograde motion of the blood. The fatal result is to be referred to the sudden propulsion of arterial fluid into the left ventricle, and not to the greater force with which the venous blood may possibly be returned to its destination. In discussing this subject there are three points to which especial attention should be given. 1st. Is the aorta so situated as likely to be influenced in the manner stated? 2dly. Would a blow, given with great violence, cause a retrograde motion of blood, and its entrance into the left ventricle? 3dly. Would the latter circumstance be sufficient to cause death?

The latter part of the paper was occupied in endeavouring to establish the principles laid down; showing that death from a blow on the stomach is not, as has always been considered, referable to any injury or impression made on the nervous system.

Dr. JOHN REID then gave an account of an *Experimental Investigation into the Glosso-pharyngeal, Pneumogastric, and Spinal Accessory Nerve*.

This communication, which was but a short epitome of some lengthened observations which Dr. R. had drawn up on this subject, embraced the principal results which he had deduced from an extensive series of experiments, performed by himself, upon those complicated and important nerves generally included under the eighth pair.

Glosso-pharyngeal.

The experiments on this nerve were all performed on dogs, and were twenty-seven in number. Seventeen of these were for the purpose of ascertaining if it was to be considered a nerve both of sensation and motion, and what were the effects of its section upon the associated movements of deglutition and on the sense of taste. The other ten were performed on animals immediately after they had been deprived of sensation, with the view of satisfying himself more thoroughly how far it is to be considered a motor nerve. The most remarkable effect witnessed in these experiments was an extensive convulsive movement of the muscles of the throat and lower part of the face, on irritating this nerve in the living animal, provided the irritation was applied to the trunk of

the nerve before it had given off its pharyngeal branches, or was applied to one of the pharyngeal branches separately. These movements were equally well marked when the nerve was cut across at its exit from the cranium and its cranial end irritated, as when the trunk of the nerve and all its branches were entire. The conclusions drawn from a review of the whole experiments were these:—That this is a nerve of common sensation. That mechanical or chemical irritation of this nerve before it has given off its pharyngeal branches, or of any of these branches individually, is followed by extensive muscular movements of the throat and lower part of the face. That the muscular movements thus excited, depend not upon any influence extending downwards, along the branches of this nerve to the muscles moved, but upon a reflex action transmitted through the central organs of the nervous system. That these pharyngeal branches of the glosso-pharyngeal nerve possess endowments connected with the peculiar sensations of the mucous membrane upon which they are distributed, though we cannot pretend to speak positively in what these consist. That this cannot be the sole nerve upon which all these sensations depend, since the perfect division of the trunk on both sides, if care be taken to exclude the pharyngeal branch of the par vagum, which lies in close contact with it, does not interfere with the perfect performance of the *function of deglutition*. That mechanical or chemical irritation of the nerve immediately after an animal has been killed, is not followed by any muscular movements, provided that care be taken to insulate it from the pharyngeal branch of the par vagum; and here, again, an important difference between the movements excited by irritation of the glosso-pharyngeal and those of the motor nerve is observed, for, while movements produced by the irritation of a motor nerve, such as the pharyngeal branch of the par vagum, continue for some time after the functions of the central organs of the nervous system have ceased, those from irritation of the glosso-pharyngeal are arrested as soon as all decided marks of sensation disappear. That the sense of taste is sufficiently acute after the perfect section of the nerve on both sides, to enable the animal readily to

recognize bitter substances. That it may probable participate with other nerves in the performance of the function of the sense of taste, but it certainly is not the special nerve of that sense. That the *sense of thirst* does not depend entirely upon this nerve.

Pneumogastric or Par Vagus Nerve.

From the results of thirty experiments upon the par vagum, he is convinced that severe indications of suffering are induced by pinching, cutting, or even stretching this nerve, in almost all those animals operated on. In several experiments, in which the trunk of the par vagum was compressed by the forceps for a few moments, it was observed that in some of these cases powerful respiratory movements were thus produced, and were followed by struggles, yet no tendency to cough, and no act of deglutition which could be fairly attributed to this cause.

Pharyngeal Branches of Par Vagus.

From seventeen experiments performed on dogs, either when alive or immediately after being deprived of sensation, he concludes that these are the motor nerves of the constructors of the pharynx, the stylo-pharyngeus, and palatine muscles; and that the sensitive filaments of these nerves must be comparatively few, if, under ordinary circumstances, they exist at all. Section of the pharyngeal branch of the par vagum on both sides, was followed by very considerable difficulty of deglutition, in which the food appears to be forced through the passive bag of the pharynx by the powerful movements of the tongue, and of the muscles which move the hyoid bone and larynx.

Laryngeal Branches of the Par Vagus.

On irritating the superior laryngeal nerve by galvanism, or by pinching it with the forceps, when the glottis was exposed to view, no movement of the muscles which dilate or contract the aperture of the glottis is observed. Upon looking at the anterior part of the larynx, upon which the external laryngeal branch of this nerve is chiefly distributed, vigorous contractions of the crico-thyroid muscle, by which the cricoid cartilage is approximated to the thyroid, were always seen. On irritating the inferior laryngeal, obvious movements of the muscles which dilate and enlarge

the aperture of the glottis followed. In some cases these movements were very vigorous, and it was observed that these did not produce an enlargement of the glottis, but, on the other hand, the arytenoid cartilages were approximated, so as in some cases to shut completely the aperture of the glottis. It was also distinctly observed, that the only outward movements of the arytenoid cartilages were merely produced by their return to their former position after they had been carried inwards.

From these experiments it was concluded, that all the muscles which move the arytenoid cartilages receive their motor filaments from the inferior laryngeal or recurrent nerves; and as the force of the muscles which shut the glottis preponderates over that of those which dilate it, so the arytenoid cartilages are carried inwards when all the filaments of one or both of these nerves are irritated.

These experiments also shew us, that one only of the intrinsic muscles of the larynx receives its motor filaments from the superior laryngeal, viz. the cricothyroid muscle, and that, consequently, the only change which the nerve can produce on the larynx as a motor nerve, is that of approximating the cricoid cartilage to the thyroid; in other words, of shortening the larynx. We shall see how far this view is supported by the subsequent experiments upon the living animal.

The superior laryngeal nerve was cut on both sides in two dogs and one rabbit, and these animals readily swallowed both solids and fluids, without exciting cough or the least difficulty of breathing. The lungs of these animals were carefully examined after death, and none of the food taken could be detected in the air-tubes. In several animals the superior laryngeals were first cut, and the inferior laryngeals immediately afterwards; and it was ascertained that the previous division of the superior laryngeal did not prevent the difficult breathing, and symptoms of suffocation, which not unfrequently follow the division of the inferior laryngeal nerves, especially in young animals.

To procure still more positive assurance of the effect of section of the different laryngeal nerves upon the movements of the glottis, these four nerves were exposed in a full-grown cat, and the larynx was then dissected out, and

brought forward, without disturbing the nerves. After watching for a little the vigorous movements of the muscles of the glottis, seen during the struggles, crying, and increased respiratory movements of the animal, the inferior laryngeal were then cut across, and instantly all the movements of the muscles of the glottis ceased, and the arytenoid cartilages assumed the position in which they are found after death. The superior laryngeals were then cut, without effecting the slightest enlargement, or any other change, upon the glottis. As the arytenoid cartilages were now mechanically carried slightly inwards during the rushing of the air through the diminished aperture of the glottis in inspiration, by which this aperture was still farther contracted, its edges were kept apart with the forceps until an opening was made into the trachea to prevent the immediate suffocation of the animal.

The glottis was brought into view upon another cat, as in the preceding experiment, and the motions of the muscles of the glottis were again watched for a short time. The superior laryngeals were then cut, without diminishing in the least any of the movements of the arytenoid cartilages. The sides of the glottis were approximated, as in crying, so as to form but a narrow fissure; and in struggling the aperture became completely closed, in the same manner as when the superior laryngeal nerves were uninjured. It must be at once obvious, that these experiments are completely subversive of the statement that the inferior laryngeal supplies those muscles only which open the glottis, while the superior laryngeal nerves furnish the motor filaments to those muscles which shut the glottis; they also illustrate, in a very satisfactory manner, the cause of the dyspnoea in some cases where the inferior laryngeal nerves are cut or compressed.

Dr. Reid has also satisfied himself, that when any irritation is applied to the mucous membrane of the larynx in the natural state, that this does not excite the contraction of these muscles by acting directly upon them through the mucous membrane, but that this contraction takes place by a reflex action, in the performance of which the superior laryngeal nerve is the sensitive, and the inferior laryngeal is the motor nerve. He has also satisfied himself

that the muscular contractions of the œsophagus are not called into action by the ingesta acting directly as an excitant upon the muscular fibre through the mucous membrane, but by a reflex action, part of the œsophageal filaments acting as sensitive, and others as motor nerves.

Spinal Accessory.

In seven dogs this nerve was cut on one side, without affecting the ordinary voluntary movements of that side of the neck. In several animals a weak dose of prussic acid was given after the nerve had been cut on one side. In several cases this was followed by prolonged, forcible, and regular respiratory movements, after the animal had been deprived of all consciousness and voluntary motion. In three of these cases distinct movements of contraction and relaxation were observed in the exposed sternomastoid muscles, synchronous with the other muscles of respiration. The contractions were perhaps weaker on the side on which the spinal accessory had been cut.

REPORT ON ANIMAL MAGNETISM,

MADE TO THE

Royal Academy of Medicine in Paris,

August 8th and 22d, 1837.

[In the last number we gave that part of the report which contained the experiments performed before the Commissioners, esteeming them of the most immediate interest; we now add the historical review which, in the original, preceded, and the *résumé* of the Commissioners which followed that portion.]

Some discussions raised in this Academy at the beginning of the present year had excited anew the attention of physicians to animal magnetism.

Our colleague, M. Oudet, though not entering into any question of doctrine, had confirmed, at one of our meetings, a fact inserted in some public papers, and afterwards in the *Bulletin de l'Académie*, viz.—that a magnetizer had come on November 14th, 1836, to take him to a young lady who was, he said, in a state of somnambulism; that when he arrived there, the magnetizer had several times, and severely, pricked her; had held her finger for some seconds in the flame of a candle, to try her sensibility; and then that he,

M. Oudet, had unfolded his case of instruments and extracted a large molar tooth, and that, at the instant of extraction, the young lady had drawn back her head a little, and uttered a slight cry. These two signs of pain, he adds, had the rapidity of lightning. Then, after half an hour's sleep, the magnetizer had proceeded to wake the somnambulist, and had apprised her, or at least had said to her, what he had done, to spare her the fright and pain of the operation.

On the 24th of January last, on the question of M. Capuron, these explanations thus given to the Academy provoked an animated discussion. This made some noise in the medical world, principally, of course, among those then occupied with animal magnetism; and a few days after, viz. on the 12th of February, a young physician, M. Berna, addressed a letter to the Academy, in which he undertook to afford those to whom, he said, authority is nothing, personal experience as a means of conviction. The Academy thus challenged, took into consideration the perfectly voluntary demand of M. Berna.

Three learned societies had been successively occupied with the question of animal magnetism:—The Ancient Academy of Sciences, in March 1784. 2d. The Ancient Academy of Medicine, first in August 1784; and afterwards in the sitting in October in the same year, when Thouret gave an account of the different lectures and memoirs which the Society had received from its associates and correspondents on the subject. 3d. The Royal Academy of Medicine, in February 1826.

It was the authorities who took the first step in 1784; the King had at first named only physicians, viz. Borie, Sallin, Darcet, and Guillotin, to give him an account of animal magnetism as practised by a M. Deslon; but on the request of these four academicians, the King added to their number five members of the Royal Academy of Sciences, viz. Franklin, Leroy, Bailly, De Bory, and Lavoisier. Bory dying at the beginning of the undertaking, Majeault, a physician, replaced him.

The magnetizer, Deslon, had engaged—1st, to prove the existence of animal magnetism; 2nd, to communicate his knowledge on this discovery; 3d, to prove its utility in the cure of diseases. Nothing was more easy then to present to the commission a theory, called that of animal magnetism, and certain manœuvres called the practise. This Deslon did not fail to do; but it was necessary to see the effects. For this the commissioners resolved, first to be magnetized themselves, with this express condition, that no stranger should be admitted where the sittings were held, so that they might freely discuss their obser-

vations amongst themselves, and be, in all cases, the sole, or at least the first, judges of what they observed.

The experiments were performed with these conditions, and it was clearly determined that no one of the commissioners had felt any thing, or at least testified any thing, which was of a nature to be attributed to the action of magnetism.

Several patients were then collected at Passy, at Franklin's, and magnetized, in the presence of all the commissioners. These patients belonged to the lowest class of society; others were chosen from higher conditions of life, and then children were magnetized, so as to vary the individual conditions as much as possible. Now, by all these experiments, the commissioners became convinced that the imagination did every thing, and that magnetism was nothing.

The touchings, added the reporter, the imagination, imitation, such are the true causes of the effects attributed to this new agent, known by the name of Animal Magnetism, to the fluid which is said to circulate in the body, and to be communicated from person to person. Ultimate conclusions:—the magnetic fluid does not exist, animal magnetism is nothing (*null*), and the means employed to put them in action are dangerous.

This was signed at Paris on the 11th of August, 1784, by all the commissioners. We shall not speak of either the secret report, or of Jussieu's; the latter was an individual opinion: we have only to consider the reports discussed and adopted by Academic majorities. However, the Royal Society of Medicine could not remain stranger to the debates which the question then excited; the government had chosen enlightened commissioners from it, and they had in consequence to draw up a report on the same subject, nearly at the same period. These commissioners were, Poissonier, Caille, Mauduyt, and Andry. Their mode of proceeding was not very different from the above mentioned; the magnetizer was the same; the subjects, patients suffering from various real or imaginary diseases. They concluded that the theory of animal magnetism is a system entirely devoid of proofs; that the means employed to put it in action might become dangerous; and that the treatment by these proceedings might give rise to very serious spasmodic and convulsive accidents. This decision was signed at Paris, August 15, 1784, by all the commissioners.

In answer to various letters which the Academy had addressed, they received numerous memoirs from all the provinces of France, from Malta, St. Domingo, Holland, England, Turin, &c., of which

Thouret made a *résumé*, from which it appeared that two great and principal reasons had led almost all the physicians in France and abroad to reject and condemn the new practice of animal magnetism. On the one hand, the non-existence of a new agent designated by the name of animal magnetism; and, on the other, the danger of the practices—the manipulations—of the whole system, in short, which was intended to produce the effects attributed to the fluid.

After this the subject was not for a long time revived; the Revolution and the long war distracted men's minds from questions of this kind; and it was not till 1825, that a physician, named Foissac, addressed a letter to the Academy of Medicine, demanding whether they did not intend to recommence the examination of animal magnetism. The Academy took the demand into consideration; and on the report of a special Commission, Commissioners were again appointed to make the inquiry.

Here we shall not enter into the history of all the experiments made in the presence of our colleagues: we respect their convictions, but their report cannot be considered as the general expression of the Academy of Medicine.

Arriving at our own Commission, we must first remind you that you had composed it of the representatives of contrary opinions on the question, and of members occupied in various particular scientific pursuits. You sent both classes to the facts, because, on the one hand, whatever were their previous convictions, you had confidence in their good faith; and, on the other, by reason of the variety of their scientific tendencies, you thought they would examine the facts in all their aspects.

Gentlemen, we may at once tell you, this precaution has had in some degree its reward. With our various ideas for and against, no difference, as you will see, has arisen among us on the facts of which we have been witnesses; with our varied propensities to consider facts in particular aspects, we have been unanimous in each of our conclusions. You will find, perhaps, in this a new warrant of their truth; for it was necessary that the facts submitted to our examination should have very strong positive or negative evidence, to induce every time a constant unanimity among Commissioners always at issue on the theoretic value of animal magnetism. But to proceed to the experiments.

Résumé and Conclusions.

Ist. It results, in the first place, from all the facts and all the incidents of which we have been witnesses, that in the pre-

amble no special proof was given us of the existence of a particular state called that of magnetic somnambulism; that it was only by assertion, and not by demonstration, that the magnetizer proceeded in this matter, affirming to us at each sitting, and before any experimental trial, that his subjects were in a state of somnambulism.

The programme delivered to us by him stated, it is true, that before the somnambulization, it should be ascertained that the subject of the experiments enjoyed perfect sensibility; that for this purpose we might prick her, and that then she should be put to sleep in presence of the Commission. But it results from the trials which we made in the sitting of the 3d of March, and before any magnetic practice, that the subject of the experiments did not appear to feel the prickings before the supposed sleep, any more than she did during it; that her countenance and her answers were nearly the same before and during the so-called magnetic operation. Was this a mistake on her part? Was it natural insensibility, or acquired by habit? Was it to excite unseasonably any interest for her person? Your Commissioners cannot decide. It is very true that on each occasion we were told that the subjects were put to sleep; but we were told so, and that was all. If, nevertheless, the proofs of the state of somnambulism could result ulteriorly from experiments made on subjects presumed in this state, the value or the nullity of these proofs must be drawn from the conclusions which we shall now draw from these same experiments.

2d. According to the terms of the programme, the second experiment was to consist in the proof of the insensibility of the subjects. But after having mentioned the restrictions imposed on your Commission—that the face was put out of sight, and removed from every trial of this kind—that it was the same for all the parts naturally covered, so that there remained only the hands and neck;—after having reminded you that on these parts we were permitted to exercise neither pinching nor scratching, nor the contact of any body, either on fire or of a slightly raised temperature, but were limited to the sticking in of needles to half a line deep;—after recalling all these restrictions, we are justified in deducing from these facts—1st, that none but very slightly painful sensations could be excited; 2d, that these could be produced only on parts perhaps habituated to this kind of impression; 3d, that this kind of impression was always the same, and that it resulted from a kind of *tatonage*; 4th, that the features, and especially the eyes, where painful impressions are more especially indicated, were

hidden; 5th, that in consequence of these circumstances, an *impassibilité*, even complete and absolute, could not be a conclusive proof to us of the abolition of sensation in the subject in question.

3d. The magnetizer was to prove, that by the mere intervention of his will, he had the power of restoring, either totally or partially, sensibility to the somnambule.

But as it had been impossible to prove to us experimentally that he had removed it, and that he had isolated the sensibility in the girl, it was also impossible to prove the restitution of sensibility; and, besides, it results from the facts that we observed, that all the trials made for this purpose completely failed. The somnambule accused every thing but that which had been announced. You know, that for the verification we were restricted to the assertions of the somnambule. Certainly, when she affirmed to the Commission that she could not move the left leg (for instance), it was no proof to them that that limb was magnetically paralysed; but then, again, what she said did not agree with the pretensions of the magnetizer; so that from all this, there resulted assertions without proofs, in opposition to other assertions equally without proofs.

4th. What we have said of the abolition and restitution of sensibility may be completely applied to the pretended abolition and restitution of motion: not the slightest proof was given of it to us.

5th. One of the paragraphs of the programme had for its title—Obedience to the natural order, to cease in the middle of a conversation from answering verbally, or by signs, to a particular person.

The magnetizer endeavoured, in the sitting of the 13th of March, to prove that the tacit power of his will could produce this effect; but it results from the facts then observed, that, far from producing this result, his somnambule appeared no longer to understand, when he did not wish to prevent her from understanding; and that she seemed to understand anew, when positively he did not wish her to understand; so that, according to the assertions of the somnambule, the faculty of understanding or not was completely in opposition to the will of the magnetizer. But from these facts, well observed, the Commission do not draw any conclusion that there was opposition, any more than submission, to his will; they saw here a natural and complete independence of it, and nothing more.

6th. Transposition of the sight. Yielding to the wishes of the Commission, the magnetizer, as you have seen, left the abolitions and restitutions of sense and motion to pass to greater facts—that is, to facts of vision without the assistance of

eyes. All the incidents relating to these have been stated; they took place in the sitting of April 5th.

By the power of his magnetic manœuvres M. Berna was to shew a woman deciphering words, distinguishing playing cards, following the hands of a watch, not with the eyes, but with the occiput, which would imply either the transposition or the non-necessity and superfluity of the organ of sight in the magnetic state. The experiments were made—you know how; they completely failed. All that the somnambule knew, all that she could infer from what was said near her, all that she might naturally suppose, she said with her eyes blinded; from which we conclude, in the first place, that she did not want a certain degree of address. Thus the magnetizer asked aloud of one of the Commissioners to write a word on a card and present it at the occiput of the woman, and she said she saw a card, and even writing on this card;—she was asked the number of persons present: as she had seen them enter, she gave approximately the number of persons;—she was asked if she saw the Commissioner placed near her, and engaged in writing with a pen whose point made a noise on the paper: she raised her head, tried to see him under the bandage, and said that he was holding something white in his hand; she was asked if she saw the mouth of the same gentleman, who, leaving off writing, had placed himself behind her: and she said that he had something white in his mouth: from all which we draw this conclusion—that the said somnambule, more exercised and adroit than the first, knew how to make more probable suppositions. But as to real facts to prove the vision by the occiput—absolute, decisive, and peremptory facts—not only were they wanting, and completely wanting, but they were of a nature to give rise to suspicions as to the honesty of this woman, as we shall presently remark.

7th. *Clairvoyance*.—Despairing of proving the transposition of the sense of sight—the nullity and superfluity of the eyes in the magnetic state, the magnetizer wished at least to take refuge in the fact of *clairvoyance*, or vision through opaque bodies.

You know the experiments made on this subject; they present the capital conclusion, that a man placed before a woman cannot give her the power of seeing through a bandage. But here a more serious reflection presents itself: admitting for a moment the hypothesis (which is very convenient for the magnetizers), that in many circumstances the best somnambules lose their lucidity, and, like common mortals, can no longer see with the occiput or the stomach, or even through a bandage, what

are we to conclude of this woman from the minute description which she gave of other objects than those presented to her? who described a knave of clubs on a perfectly blank card—who, in an Academic medal, saw a gold watch, with a white face and black letters—and who, if urged, would perhaps have finished by telling the hour that this watch marked?

If, now, you ask what ultimate and general conclusion we would draw from the whole of the experiments made under our inspection, we should say that M. Berna was without doubt under an illusion, when, on the 12th of February, in this year, he wrote to the Academy of Medicine, stating, &c. Those facts which he promised to shew are all known to you; you know, as we do, that they are any thing but conclusive in favour of the doctrine of animal magnetism, and that they can have no relation either with physiology or with therapeutics.

Should we have found any thing else in the more numerous and more varied facts furnished by other magnetizers? This we shall not attempt to decide; but what is very certain is, that if there are still at this time other magnetizers, they have not dared to come out into broad day—they have not dared to accept either Academic sanction or reprobation*.

(Signed) MM. ROUX, President,
BOUILLAUD, CLOQUET, EMERY,
PELLETIER, CAVENTOU, CORNAC,
OUDET, DUBOIS (d'Amiens), Reporter.

HÔPITAL LA PITIÉ.

COMMUNICATED BY H. CURLING, Esq.

[Concluded from page 926.]

CASE X.—*Rubeola—Pulmonary Catarrh—Lagryngitis—Abortion—Metritis—"Latent" Pneumonia—Death.*

A WOMAN, aged 24, of a strong constitution, was admitted, as a patient, under M. Louis, February 27th, 1837. She states that she has been pregnant seven months, during which time she has suffered from nausea and vomiting, and her menses have not appeared. Her present illness commenced eight days ago with shivering, headache, coryza, and cough; the shivering has returned every morning; has kept her bed during this period; had a pain in the throat yesterday, and in the evening her voice became altered.

* Errata in last part of this Report.—Page 920, col. 2, l. 6 from bottom, omit "a blow;" p. 923, col. 1, l. 21 from bottom, for "above" read "upon."

February 28th.—Countenance very red, more coloured at intervals; is seated in her bed, requiring three pillows for support; great anxiety and restlessness; complains of an insupportable dryness in the mouth; pain at the level of and below the larynx, but relieved by the ejection of a very thick tenacious mucous fluid, bearing some resemblance to a false membrane. The interior of the mouth red, but not uniformly so; several red spots on the palate; pharynx quite natural, perhaps a little redder than usual; voice much altered; numerous red spots, of an irregular form, on the chest and abdomen; pulse 120, small and feeble; swallows with facility; has not felt the motion of the child the last three days; slight pain in the abdomen; had epistaxis yesterday; 48 respirations in a minute; respiration pure at the summit posteriorly; very large crepitation on both sides inferiorly.

Venæsectio ad $\frac{3}{4}$ x. to be repeated in the evening, if necessary. Hirudines vj. to the neck. Warm cataplasm afterwards. Mucilaginous ptisan. Pulv. Opii, gr. i. nocte sum.

Diagnosis: rubeola; laryngitis; bronchitis.

Labour came on in the evening, and she was delivered of a child which lived three hours.

March 1st.—Countenance the same; swallows with difficulty; tongue moist and natural; partial aphonia; heat of skin greater than yesterday; pulse 120 to 124, fuller; several thick morsels, as it were, of mucus in the crachoir; spots better defined and more natural; respirations 38; pain just above the umbilicus. The clot of the blood drawn yesterday of a moderate consistence, and covered by a greenish coat two lines in thickness. A solution of simple oxymel for ptisan.

Pulv. Opii, gr. i. nocte sumend.

2d.—Has coughed less; heat of skin increased; tongue very moist; much thirst; several stools; pulse 120; 36 respirations; aphonia continues; abdomen free from pain, except when the patient coughs; respiration pure on the left side; a little mucous râle inferiorly on the right side.

Ptisan. Pulv. Opii, gr. j. nocte; Antim. Tartariz. gr. j. Low diet.

4th.—Aphonia continues; red spots disappeared; nausea, without vomiting, yesterday evening—was not caused by coughing; pulse 120, regular; pain in the breasts; considerable thirst; rhonchus sonorous on the right side; skin still hot.

Rep. Antim. Tart. Morphiae, gr. $\frac{1}{2}$ nocte sumend.

6th.—Countenance more natural; pulse 112, small, feeble, and regular; heat of skin moderate; vaginal discharge of a red colour; abdomen free from pain; meteorism; pain under the right mamma during the night; rhonchus mucosus on the right side, posteriorly and inferiorly extending laterally as far as the mamma; on the left side, inferiorly and posteriorly only. Percussion every where loud; thirst increased; aphonia continues.

Ptisan, 4 pints. Morphiae Acet. gr. $\frac{3}{4}$, nocte sumend.

Rep. Antim. Tart.

Pneumonia and metritis suspected.

7th.—Pulse 112, regular; skin very hot; sputa greenish, rounded, and opaque; thirst continues; tongue natural, but less moist; vaginal discharge of a mixed colour—white and red; aphonia; percussion clear in the precordial region.

Venæsectio ad $\frac{3}{4}$ vij. Morphiae Acet. gr. $\frac{3}{4}$, nocte sumend.

8th.—Supported the bleeding well; coagulum of the blood surrounded by a zone of serum six lines in width, and has no coat; forty-four respirations; heat of skin natural; auscultation gives the same result.

Syrup of Gum; of Poppies, aa. $\frac{3}{4}$ ss.; Antim. Tart. gr. iij.; Aquæ Aromat. $\frac{3}{4}$ vij. to be taken during the day.

9th.—A few greenish opaque sputa; has vomited, and had several stools; abdomen without pain; a little meteorism on the right side; tongue natural; forty-eight respirations; pulse 112, very abundant, and large rhonchus mucosus in some places on the right side, approaching to gargouillement.

Between the scapula and vertebral column, for an extent of three inches, a dull sound upon percussion; in the same spot bronchial respiration and bronchophony. To be cupped on the scapula.

Ant. Tartariz. gr. viij.; Syr. Papaveus. $\frac{3}{4}$ ss.; Aq. Lauroceras., $\frac{3}{4}$ ss. to be taken during the day.

Pneumonia—a fatal prognosis.

10th.—Has only taken one-third of her medicine; pulse 120 yesterday evening; forty-eight respirations; percussion loud under both clavicles; other symptoms the same.

Venæsectio ad $\frac{3}{4}$ x.

11th.—The coagulum without any coat or serum; pulse 112; lies on her right side; forty-eight to fifty respirations; abdomen without pain; refuses to take the tartar emetic, or be bled. Two blisters, four inches in diameter, to be applied to each scapula.

On the 12th inst. the pulse was 140, small, and regular; the sputa were opaque, and of a yellow colour, with difficulty expectorated. On the 14th the dyspnœa was much increased; the respiration was feeble under the right clavicle, and nearly inaudible three inches below it; percussion was also dull. On the 15th she was delirious, lying chiefly on the right side; she died early on the 16th instant. During the last three days she took six grains of Kerme's mineral.

Autopsy twenty-nine hours after death.—Muscles still stiff, and of a good colour; limbs well developed, and by no means emaciated; much fat under the integuments; the mammæ afford a milky fluid upon pressure. The cellular tissue of the pericardium yellow, and three or four lines in thickness; no adhesions between the left pleuræ, but the cavity contains one pint and a half of a thick fluid, in which are several yellow albuminous flocculi. The corresponding lung small, reduced to one-third of its normal size, and covered in its whole extent with a greenish-yellow soft false membrane, more or less opaque; on a part of the base and external surface of the inferior lobe, the false membrane is thicker, more opaque, and of a reticular structure. Tissue of the lung very dense, without being hepatized or softened. The right lung universally adherent at the base; partially so in other parts. The pleura contains eight ounces of a yellow serous fluid. The lung heavy and large, especially the superior lobe, which is firm, and of a deep red colour. Hepatization posteriorly to within three inches of the free border of the lung; the rest contains a spumous red fluid. The inferior lobe offers the same aspect, only the hepatization is confined to a very few spots; the bronchi red, and containing a purulent fluid. The heart of a moderate size, covered with a great quantity of fat. The right ventricle contains a fibrous coagulum; its parietes of moderate firmness, and $5\frac{1}{2}$ lines thick; the corresponding auricle contains a great quantity of liquid blood; its lining membrane pale; its parietes three lines in thickness. The left ventricle contains no blood, its walls soft, five lines in thickness. Sigmoid valves healthy, slightly red. The stomach of the usual dimensions, contains a little quantity of a greyish-yellow fluid; its internal surface covered by a yellow viscous fluid; red streaks in the great cul-de-sac, but belonging to the submucous cellular tissue; in this part the mucous membrane is very thin and transparent. Liver very voluminous, of a pale yellow tint, tears with facility, and contains but little blood. The small and large intestines healthy, the lat-

ter distended with gas. The spleen and kidneys in their normal condition. The uterus increased in volume—measures $3\frac{1}{2}$ inches in its greatest width; parietes 7 lines in thickness, of a deep bluish-red tint; the tissue of the internal half is not very firm, and tears with facility; externally the tissue is healthy,—the internal surface of a brownish-red tint, irregular, and mammelated; mucous membrane of the larynx thickened, red, and grumous; the chordæ vocales rounded, and the ventricles nearly obliterated.

Remarks.

When this patient was first admitted, subcrepitation was heard posteriorly and inferiorly on both sides, denoting the presence of pulmonary catarrh, which had not ceased at the time of her death, as the state of the bronchi proves.

M. Louis has never seen a case of measles in which there was no cough; and he has generally found sub-crepitation to exist inferiorly and posteriorly. Should the nature of the eruption be doubtful, the presence of the râle becomes of consequence in enabling us to form a correct diagnosis. The aphonia consequent upon the inflammation of the lining membrane of the larynx also existed till death, and was fully accounted for by the post-mortem appearances. Laryngitis is a much more frequent complication of measles than of pulmonary catarrh. The fever continuing for a long period without any evident cause (for very extensive pulmonary catarrh is often unattended with much dyspnœa or fever), the patient was particularly questioned whether she had any abdominal pain, whether the vaginal discharge was profuse or altered, M. Louis suspecting inflammation of the uterus. The pneumonia was not detected till the 9th instant: it occupied the posterior surface of the superior lobe of the right lung. The pleurisy was most probably very recent, not having existed more than three or four days; and during this period the patient was too weak to be examined.

TREATMENT OF PNEUMONIA.

M. Louis' treatment of pneumonia consists, as will be seen by the cases, in bleeding freely at the commencement, and then administering tartar emetic in large doses.

The bleeding, though it alleviates the pain and diminishes a little the dyspnœa and fever, has but little effect on the local symptoms, nor does it sensibly diminish the duration of the inflammation: the local signs often exist in the same intensity after two or three large bleedings. Indeed, it may be laid down, that the local signs bear no regular proportion to the general symptoms.

This does not accord with the experience of other physicians. Thus many English writers say that by very large bleedings it is possible to arrest the progress of a pneumonia, and prevent it arriving at the second stage. M. Louis thinks that in these cases there must have been some error in the diagnosis, for before the patient arrives at the hospital, the pneumonia has *almost always* reached the second stage.

But both English and French authors state that bleeding is often of immediate service, and cuts short the inflammation. Thus M. Bouillaud says, that by following his system of bleeding, *coup sur coup*, the inflammation is almost always arrested on the third day: indeed, so sanguine is he of his practice, that he states with him, "cure is the rule, death the exception." He calculates that he loses one patient in eight, while others lose one in four. M. Louis does not believe pneumonia, *uncomplicated, and occurring in a young and healthy individual*, to be a very dangerous disease; and he accounts for the conflicting opinions on the value of bleeding, by physicians paying no regard to the day upon which the bleeding was practised.

Every inflammation has a tendency to exhaust itself, and that tendency is in proportion to its duration. Thus a bleeding practised upon the tenth or eleventh day is much more likely to be followed by immediate and great improvement, than one practised at an earlier period. This was strikingly exemplified in Case VII., in which the patient was bled on the fifteenth day.

The circumstance of the local signs continuing unabated when the general symptoms are alleviated, should render us very cautious in the treatment of internal inflammation, even when the fever has ceased.

Tartar emetic is very beneficial in pneumonia, often causing an immediate amelioration both of the general and local symptoms. Louis generally gives ten grains during the first day, afterwards increasing or diminishing the dose according to circumstances. It generally produces considerable nausea, vomiting, and purging, the first day; less on the second, and on the third it is borne very well. This is well illustrated by almost all the cases. It very rarely produces ill effects, though sometimes, in aged individuals, it has been known, when administered in these large doses, to cause a great depression of strength, and very rarely to cause death.

Blisters M. Louis entirely proscribes from his practice. He has never seen any

good produced by their employment, and he believes that it is only adding one source of irritation to another. He is also very particular in not allowing his patients to have any thing to eat, even some time after all the symptoms have abated.

PROPOSED TEST FOR ANIMAL MAGNETISM.

To the Editor of the Medical Gazette.

SIR,

IF you can find room in your valuable journal for the following observations, you will much oblige

Your obedient servant,
A LOVER OF TRUTH.

September 20, 1837.

[The paragraph referring to the Professor of Medicine in University College is omitted, as not essential to what follows.—
ED. GAZ.]

I shall most strenuously recommend every person very carefully to read the Report on Animal Magnetism, inserted in your last number, because it shows very plainly to what manœuvres the magnetizers resort in order to delude the public; and it illustrates the advantage of adopting various plans, and those, too, independent of the magnetizer.

The purport of the present note is to suggest to some of our hospital physicians to devise a series of experiments to put the vaunted abilities of the continental magnetizers to the test. Methinks that a series of well-conducted and well-attested experiments, performed in connexion with the best magnetizer in London, would banish it at once and for ever from this country. Englishmen are not the people to put up with this species of empiricism, if once exposed. It has been exposed in France, and why should it not in England?

Let a series of experiments be performed in the presence of a number of eminent physicians—men whose reputation does not merely consist of an enthusiastic love for novelty, and let them each take a part in the conducting the experiments. Let them be particular in their choice of patients (I mean as to their character, &c.); and let them admit no one amongst themselves but the magnetizer, and conduct every thing by signs or by writing, and I think that they must succeed, as the French Commission has succeeded, in shewing the futility of this practice.

SUBSCRIPTIONS—MR. BAKER.

[The following has been sent us by an anonymous correspondent.—ED. GAZ.]

The medical profession will be greatly indebted to the Editor of the MEDICAL GAZETTE if he will insert a remark in his next number, requiring a proper debtor and creditor account of the subscriptions and expenses relating to James Baker and the Medical Witnesses' Bill.

NEW FORM OF LITHONTRIPTIC INSTRUMENTS.

M. CIVIALE has invented a modification of the form of the instruments which he was in the habit of using, and which, in common with those of other operators, were often insufficient in easily seizing and fixing small calculi and fragments. He now gives to the curved part of the instrument a breadth almost double that of the ordinary instruments, and diminishes it proportionately in its thickness. It preserves in this form all the necessary strength, so that there is no fear of its bending or breaking; and he has found, in practice, that it fully removes all the inconveniences of the narrow instruments, and expects that it will be as well applicable in cases of large calculi.

The urethra adapts itself perfectly to the new form of the instrument. In those he formerly used, the female branch was three lines broad, the male two; in the new one the female is five and a half, the male four lines broad.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Sept. 21, 1837.

Bicton Hall, Plymouth.—Henry Tayler, Devizes.—Edward Watson, Bath.—Joseph Clifford, Camberwell.—Henry Oldham, Upper Tooting.—Charles White Finney, Spondon, near Derby.—William Rhodes, Leeds.—James Meyrick Field, Hatherleigh, Devon.—Robert Hamilton, Cork, Ireland.—John Thomas, Newmarket.—Thomas Wm. Lockyer, Martyr.—George Allbut, Derby.

METEOROLOGICAL JOURNAL.

Sept.	THERMOMETER.	BAROMETER.
Thursday . 14	from 40 to 60	29·23 to 29·50
Friday . . 15	33 60	29·50 29·87
Saturday . 16	29 60	29·89 29·94
Sunday . . 17	29 71	29·94 30·00
Monday . . 18	52 67	29·96 30·04
Tuesday . . 19	48 69	30·05 30·01
Wednesday 20	50 69	29·94 29·87

Wind, S.W.
Generally cloudy, except the 15th, 17th, and 20th.
A little rain on the 14th, 16th, and 18th.
Rain fallen, ·625 of an inch.

CHARLES HENRY ADAMS.

WEEKLY ACCOUNT OF BURIALS,

From BILLS OF MORTALITY, Sept. 19, 1837.

Abscess . . . 10	Heart, diseased . . 1
Age and Debility . 53	Hooping Cough . . 13
Apoplexy . . . 10	Inflammation . . 22
Asthma . . . 10	Bowels & Stomach 7
Cancer . . . 3	Brain . . . 4
Childbirth . . . 9	Lungs and Pleura 10
Cholera . . . 3	Influenza . . . 2
Consumption . . 78	Insanity . . . 4
Convulsions . . 42	Jaundice . . . 1
Croup . . . 3	Measles . . . 12
Dentition or Teething 14	Miscarriage . . . 2
Diarrhœa . . . 6	Mortification . . 1
Dropsy . . . 15	Paralysis . . . 1
Dropsy in the Brain 9	Small-pox . . . 6
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NOTICES.

We shall be glad to have the cases to which Mr. J. Bell alludes: we trust that he will perceive, on reflection, that nothing would be gained by continuing the controversy to which his letter refers.

SENTIS. — We agree with our correspondent in his opinion of Dr. Elliotson's attack on the Examiners at Apothecaries' Hall, but must decline publishing it unless authenticated by the writer's signature.

J. C. appears to us to take so erroneous a view of the subject, that we must decline publishing his letter.

Mr. WALKER. — The interest of the subject is really quite expended.

The cases in which ergot was used by Mr. W——h are scarcely of sufficient interest for publication.

Mr. NORTON's letter was accidentally mislaid, but shall be inserted in an early number.

We are much obliged to Dr. DOUGLAS for his letter and pamphlet.

We must decline publishing the letter addressed by "A General Practitioner" to the "Editor of the Lancet," which has therefore been returned to the publishers, as desired.

The Baron du Potet's letter only came to hand as this sheet was passing the press, otherwise it should have been inserted.

ERRATUM.—In Mr. Lonsdale's paper, in our number for Sept. 9, page 875, col. 1, line 2, for "inferior oblique," read "superior oblique."

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